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Amazing

Fact and Science Fiction Stories

NOVEMBER, 1960 Vol. 34, No. 11

REG. U. S. PAT. OFF.

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EDITORIAL

A RATHER interesting trend has been taking shape in our manuscript "IN" box lately. There have been a growing number of stories submitted based on biological and medical science. Not unusual, you say? Darned right. What has been unusual—and what went more or less unremarked until the opposite began to happen—was the *absence* of these kind of stories. If you stop to think about it, it has been a long, long time since a really outstanding science-fiction story of any considerable length was based on biology. Not that people have been neglected for machines; there's been plenty of sociological and anthropological and cultural sf. Even, thanks to Philip Jose Farmer, serious sexual sf. But *biological*? Conspicuous by its absence.

And this is an especially strange state of affairs in a world where biological warfare is an accepted branch of our so-called civilization.

Which is why we were espe-

cially alerted by the opening manuscript pages of the novel you are about to have the pleasure of beginning in this issue. After the first twenty pages we were more than alerted; we were excited. And when we finished reading the story as a fan, and began thinking about it as an editor, our first concern was: *Who* is this Dr. McClatchie, *how* did he get that way, and *when* is he going to write some more for us?

Through the good offices of Dr. McClatchie's agent, Scott Meredith, we received a biographical communique from the author himself that answers the first two questions. Since a writer of the doctor's achievements does not often burst upon the sf scene like Minerva from the brow of Zeus, we thought you'd be interested in sharing the details of Dr. M.'s life:

"I was born in Lurgan, Northern Ireland on February 16, 1915. Following the Irish Rebellion my family moved to New

Zealand (we were not thrown out, by the way) and I completed my public school education there. In 1927 we moved to Toronto, Canada and there I finished high school and my medical education, graduating from the University of Toronto in 1939.

"I began my internship in Vancouver, Canada, that June, but in September left to join the RCAF as a medical officer on the outbreak of World War II. Later I was transferred to the Army and finally, of my own wish, to the Indian Army shortly after Pearl Harbor. I went overseas early in 1942 and saw duty in India, Egypt, and Cyprus before joining the combined operations training in Palestine for the landings in Sicily. I went into Sicily on D-day and again across the Straits of Messina, landing in Italy about 20 minutes after zero hour which makes me one of the very first doctors to land in Europe. Subsequently I was with the New Zealand Corps in the famous battle of Cassino. Later, in the valley of the Po river, I was awarded the Military Cross, supposedly given for "gallantry in action."

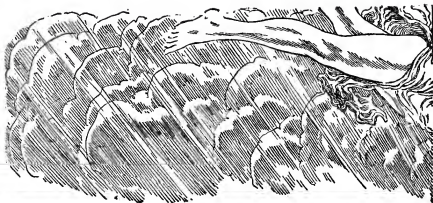
"On my return to Canada I went into general practice in British Columbia for several years, and then began to study pathology. I joined the United States Army, ostensibly to do laboratory work; but with the

onset of the Korean War I volunteered to go back to the front and spent from January to December, 1951, in aid stations on the battle line, mostly with the 27th Infantry Regiment, the famous Wolfhounds.

"In the early part of 1952 I went to Hokkaido where I was an advisor to the Japanese Defense Force on military medical tactics. Later I was sent to Texas to instruct at the Army Medical Service School. Tiring of this, I became a paratrooper and Division Surgeon of the 82nd Airborne at Fort Bragg for a year and then, following an injury, went back to do pathology again for a while. In 1956 I was sent to Formosa as an advisor to the Surgeon General of the Chinese Army and while there had something to do with the fighting on Quemoy and Matsu, although I was careful to keep out of the danger zones as much as possible. (I forgot to mention above I had been slightly wounded in Korea which naturally makes one more sensible about such things).

"On my return to the United States I decided I had wasted enough time fooling around so I reverted to the Reserve and came back to Vancouver to complete my much interrupted studies in Pathology. I am now a Teaching Fellow in Pathology at the University of British Columbia.

(Continued on page 137)



ILLUSTRATED BY FINLAY

The LAST VIAL

By SAM McCLATCHIE, M.D.

(First of Three Parts)

1. *And I heard a great voice out of the temple saying to the seven angels, "Go your ways and pour out the vials of the wrath of God upon the earth."*
2. *And the first went and poured out his vial upon the earth and there fell a noisome and grievous sore upon the men which had the mark of the beast and upon them which worshipped his image.*

Revelation 16.



CHAPTER 1

A LITTLE late, I pulled my Ferguson Cross-Country '62 into the space reserved for me and stepped out. The clouds were low and moving fast but the rain was soft on my bare grey head. The dark walls of the Laboratory rose close by. I felt the mass of it blocking off the light wind and, with the wind, the chill wetness of an autumn morning. It was good to be back, I thought, back to the quiet excitement of research, the prideful interest in my students, the comforting presence of my friends.

A female figure splashed by me hurriedly, her arms full of large brown envelopes. I half turned. "Lottie", I started to say . . . it was the Lab's messenger girl . . . but she was gone already "Funny", I mused, "she's usually ready to stop and chat at the least excuse." I turned back towards the Lab and almost collided with another woman, also loaded with what looked like case reports. "What the Hell!" I muttered to myself, but she was gone too. I quickened my pace, ran up the stone steps two at a time and passed through the big glass doors that open on the main hall of the Laboratory Building.

As the electronic eye closed them behind me I shrugged off my raincoat. I dropped a dime in the news vendor and the paper popped up in its waterproof

wrapper. The headline printed on the outside caught my eye as I started to shove it into my pocket. "New Epidemic Increases Hourly." New epidemic? What was the old one? Well, I'd find out soon enough. Maybe that explained Lottie and the case reports. I turned to go up the stairs to my office.

Behind the counter of the appointment desk Rosie, our senior receptionist, was watching me. Her bright black eyes and pert old face set under thick grey curls reminded me of a little bird curiously inspecting some strange new animal. Her high chirping voice completed the illusion.

"Good morning, Doctor Macdonald," she said and moved the sign on the arrival and departure board to show I was in.

"How was the vacation? Pat's in," she went on without waiting for an answer. "She says she ran into you a couple of times up in the Powell River Country."

I finished folding my raincoat before I looked at her.

"Yes, we did meet," I admitted cautiously but didn't explain further.

"I don't know how you manage that boat of yours all by yourself. Seems to me I'd want company to sail away up there in that rough water," she paused. "I hear Pat's a good sailor."

"You talk too damn much,

Rosie," I growled and started along the hall. All the way up the stairs I remembered the twinkle in her eyes as I went past her.

The ground floor of the Laboratory is occupied by the Administration Office and Clinical Pathology Section. Shut off at the back are the white tiled walls and monel metal tables of the Autopsy Rooms. On the first floor the Tissue Pathologists sit at their microscopes and study the pretty blue and red stained slides of human and animal tissues which come from the batteries of Technicon machines and the skillful microtomes of the laboratory technicians. Here too are the Medical Library and the Hematology Section, where blood from thousands of patients is smeared on slides, stained, and examined for signs of disease. I was just rounding the banister at the top of the stairs when, coming out of the Serology Room, I saw the long thin slow-moving figure and wavy blond hair of Harry Cope, the hematologist. He saw me at once and waved a languid hand.

"Hello, John! How was the holiday?" he said in his soft English voice.

"Pretty good, Harry. Keeping you busy?"

"Not in my own shop," he said. "But Dr. Hallam will certainly be glad to see you back.

I've had to give him a hand the last day or two."

"Why, what's up?" I was surprised. Harry knew quite a bit about Virology and had kept up his interest in it even though hematology was his specialty. However he seldom worked for us unless there was a real emergency.

"I'd better let the Director tell you himself, old man. I have an appointment just now. See you later." He moved down the hall, as quiet and impassive as usual.

A little worried now, I went up the stairs to the second floor, passed Bacteriology and poked my head into the Virology Section. The routine work on virus diseases goes on here. The Research Lab, Dr. Hallam's pet project, is in a specially designed penthouse on the third floor, alongside the animal house, and is never used for ordinary tests.

In the Tissue Culture Room, Pat was already busy with the specimens and had time only to wink at me. No hope for enlightenment there! I looked back at her trim figure as I moved away and, at the door of Electron Microscopy, ran head on into Polly Cripps, our electron microscopy technician and Harry Cope's fiancée. Even at thirty-five she was still good looking in a bold way, with white gold hair waving over deep blue eyes, a full mouth and a full figure to go with it.

When I recovered my breath after bouncing off that pneumatic form, I started to speak but, as usual, she beat me to it.

"My Goodness, John, you Northerners are always in a hurry," she gasped. "You almost mashed me flat."

"Ah caint see no difference honey," I parodied her Alabama drawl. "Say, Harry tells me something big is happening."

"It surely is," she said, "I've taken more pictures in the last two weeks than in the six months before that. I took a whole mess of them to Dr. Hallam this morning."

"Maybe I'd better go find out for myself. See you later, cutie." As I went by I gave her a friendly pat on her well rounded posterior and got the back of my head clipped for my temerity.

"You keep your cotton-pickin' hands to yourself, boy," she said, but she was smiling.

The time was late autumn. Because of a special project, I hadn't been able to take my summer vacation. Patricia Delaney, our senior virology technician, had worked with me and, as the days went by, it looked as if neither of us would get a break. The fall is the season for respiratory viruses to start causing trouble and we couldn't afford to take time off if even a minor outbreak appeared. But the weather

stayed dry and finally, one lovely Indian summer day, Dr. Hallam had shoved us both out of the office for ten days' rest.

I stopped on the front steps of the Lab and looked at Pat, standing beside me, her brown curly head, topped by one of the new round space satellite hats, bent over as she fumbled at her handbag.

"Now what do we do?" I felt at a loss, a little tired and let down. I hadn't expected to get time off and consequently had made no plans for spending the next ten days. The sun was bright, the clouds were small and fluffy, the air was warm. It was autumn at its best. Surely it would be a shame to waste such wonderful weather.

Pat was speaking, her clear grey eyes thoughtful behind the heavy-rimmed glasses. The soft Louisiana voice was a treat after the harder northern accents of the Canadians.

"I don't know. I haven't made plans to do anything."

"Well then, let's go have some coffee and talk it over."

She nodded and fell into step beside me, her long legs, long for her medium height that is, keeping up with my short ones. In her high heeled shoes she stood as tall as I, her broad shoulders and slim but prettily rounded figure contrasting nicely with my stocky frame. We make a

good pair, I thought, she, the American of Irish descent and I, the immigrant Irishman, educated in Canada and naturalized American during the Korean War. She had come to British Columbia just a year ago, when her marriage had broken up, to make a fresh start. The year before that I had returned to Canada to join the staff of the Civic Hospital as a pathologist.

We crossed the parking area to the main hospital building and went into the restaurant through the back entrance.

"How about this table?" I said and pulled out a chair for her. I tipped my head to the girl behind the counter and held up two fingers. The coffee came, not too strong, but at least it was hot. Pat shrugged out of her mackintosh, reached for the Players I held out to her and dragged at the battery match flame. I watched her as she leaned forward over the lighter. The tiny creases at the corners of her eyes, the slightly deeper lines of her mouth, marked her as a woman of thirty, mature, a little wordy, but still attractive. Delightfully so to me, I thought, since, at thirty-five and a casualty of the divorce mill too, I was no longer interested in young girls, good to look at but unseasoned by life.

She sat back in her chair and looked at me quizzically.

"Did I pass inspection?" she said.

I hadn't realized I'd been so obvious. It was a little disconcerting, even after dating her frequently in the last six months, to have my thoughts read the way she seemed to do.

I smiled at her. "I'll have to have a closer look to be sure."

"I don't know about that," she said teasingly. "I wouldn't trust you too far."

"How far would you trust me," I asked quickly, an idea growing hopefully behind my bantering tone.

She looked at me and her smile slowly faded. Again her intuition was right and the fear of getting emotionally tangled up with a man, the reluctance to bare her heart again so soon after it had been lacerated by another male, was obvious in her caution.

"It depends on what you want to do." She laid the cigarette down. It burned untouched as she watched my face.

"The satellite weather forecast is for good weather the next ten days," I said. "This looks like a perfect chance for a long cruise up the coast in my boat." I paused and looked straight at her, "but it takes two to work it properly."

She had been on one day cruises with me before this and was learning quite quickly how to

sail. I knew she would love to go but . . .

"Where do we stay at night?" she said

"I didn't figure on any definite itinerary. We could sleep on the boat, there's plenty of room."

"I know that, but there's only one cabin."

"I won't bite you."

"Strictly platonic?"

"You call the tune, I'll play it."

She stood up abruptly and reached out her hand to me. "We're wasting time," she said. "Let's go!"

I was thinking over those pleasant days and too platonic but still exciting nights as I came to the door of the Director's office. Dr. George Hallam, that straight backed old soldier, was sitting at his desk when I walked in. He was shuffling a pile of black and white photographs and, as they riffled over, I saw that they were some of Polly's electron microscope pictures of elementary particles. Hallam was a large man, but not fat, with black thinning hair combed straight back. Ordinarily a pleasant expression rested in the light brown eyes behind his rectangular spectacles, and a slight smile brightened his round, firm-fleshed face. Today he was definitely not happy, and under the white lab coat his big shoulders hunched forward determinedly

like a fullback ready for a plunge through the line. I was wondering what bothered him until I caught a glimpse of the headlines in the "Sun" lying on the desk. EXTRA! Greatest Epidemic Ever! I noted the edition was later than the one I had bought. Flu Epidemic Spreads Through B.C. it said.

"Good morning, sir."

He nodded at me and I waved at the paper.

"What goes on since I left?"

"Five thousand cases of Flu."

Bang! He slapped the desk. "Just like that. In one day!" He ran one big hand over his chin and was silent, leaning on his elbows.

I picked up the paper to read the lead as he spoke again.

"That was a week ago. For three days the cases rose to a peak and then eased off. We've been working on it and I think we've isolated the virus." He looked up at me. "Didn't you know about it?"

"Chief," I said reproachfully, "You don't think I'd have stayed away if I'd known."

"No . . . no, of course not. I haven't had time to think much about it. But we could have used you and Pat. I'm damned glad you're back."

"We . . . ah . . . I didn't look at a paper for the whole time. Went for a trip in my boat. I even turned off the television.

"You must have had interesting company." He grinned at me slyly.

"Yeah, I had a good crew," I said and changed the subject. "But what about this epidemic?"

The fun died out of his eyes. "We've been expecting the second wave to hit anytime. Judging by the headlines we have it . . . and it's a corker. The Department of Health tells me it's spreading faster than a dirty story both north and south of the border."

"You say you have isolated it?"

He picked out several of the photographs and passed them across to me. I looked at them for a moment.

"But these particles are irregular, and too big!"

He nodded.

"What about the agglutination tests?"

"It isn't A, B or C," he said. "It's a new virus, or at least one I've never heard of. There doesn't seem to be a relationship to any other flu virus . . . and probably no immunity to it either."

"Then how do you know it is flu?"

"Only by the way it acts clinically. It fits the flu syndrome better than any other disease we can think of. Odd thing about this stuff," he mused, "as you can see, these first electron pictures don't look like flu and the Biochemistry

Section also reports some unusual components in its chemical structure."

He stopped to light his pipe. "You remember how I broke up those simple plant viruses a few years ago and tried putting different pieces of them back together to make new ones?" He mumbled around his pipestem, blowing a little cloud of blue smoke with each word.

I hadn't been at the Civic at that time but I nodded in affirmation, not wanting to interrupt his train of thought.

"Well, this virus isn't the same of course, but it seems to be a relatively simple one and of such a peculiar composition it makes me wonder. Certainly, so far, it doesn't fit in with any of the natural viruses I've handled."

"Maybe it's an exotic variety brought in from overseas," I ventured. "Vancouver does handle a lot of foreign shipping. Or maybe it's a wild mutation from some ordinary flu virus. Look what happened in 1957 with that A prime mutation. Perhaps this thing has gone even farther away from the family tree."

"I thought of that, but I'm not convinced." He shook his head in exasperation. Damn it, man, there's something queer in this whole thing . . . and I can't put my finger on it!"

"What does the bug do to people, aside from the usual stuff?"

"They all get a sharp attack of the flu, lasting three or four days. The picture is typical as a rule, but on the mild side. Some of them act as if they had the mumps too."

"H'm, that's nice," I said. "Has there been much orchitis in the male patients?"

"Who else could get it?" he giped. "Now that you mention it, I believe there have been some cases," he said drily, "but I've been more concerned with organic chemistry than with organs. By the way, how was your holiday?"

"The sly old dog," I thought. "He probably figures I've been having myself a time with Pat." Out loud I answered, "Just fine, Sir." I turned to go out. "Guess I'd better get started back to work. At least I got a good rest."

"Really, John, you call that a rest?" He was still chuckling as I shut the door behind me.

I changed to a white coat in my own small office. There was no definite job assigned to me now and I had no classes to teach this semester. I rambled around the office for a while, straightened out my desk and then decided to go down to Records and look up the case histories of the flu patients. It was partly idle curiosity but I knew that, sooner or later, the Old Man would have me working on it.

The girls in Records were full of questions about my vacation. That Pat and I were practically engaged was no secret, and the fact that someone had seen us together on my sloop was providing plenty of gossip.

"The hell with them," I thought. "Let them think what they want." At least it was not malicious gossip. We had a friendly crew in the Lab and the ribbing I was taking was all good natured.

I went back to my office with a large bundle of case summaries loading me down. With the tremendous interest aroused in virology and the nature of protein molecules, because of the polio research of the Fifties, the drive to investigate the virus theory of cancer and the flu epidemic of 1957, a great deal of money had been spent to make the Civic Hospital a first class research centre. Under Dr. Hallam's guidance and the sponsorship of the University of British Columbia, the Research Laboratory had become one of the best in North America. The Department of Health of B.C. cooperated enthusiastically in the field work and I was able to get from our files the most detailed case histories prepared by their trained investigators. I spread out the charts, picked one at random, and began to study it.

Three hours later I was begin-

ning to get the picture, at least up to date. Most of the cases gave a routine history. A few hours before the fever began they had noticed a mild head cold. This was followed by aching in the limbs and back, headache, fever, lack of appetite, and feeling generally ill and depressed. Some had swelling along the sides of their neck or under the chin, but that was not a prominent feature of their complaint. Several of the males also reported slight swelling of the testicles, less than is usually the case in mumps, and it did not seem to incapacitate them at all. The occasional female reported abdominal pains which could have been due to inflamed ovaries, but it is difficult to make such a diagnosis with certainty. In inquiring about the movements of the patients before they became ill, the interrogators had turned up a few odd stories.

One woman reported that she had been standing in a crowded bus a few days before she got the flu when a man standing beside her had dropped a glass ball.

As she told it, "It looked like one of them souvenir things—you know, the kind that has a snowstorm inside it when you turn it upside down, or maybe it was a Christmas tree ornament. It broke just like you dropped a light bulb or somethin'. I thought I saw a kind of a cloud, like smoke, but it was only for a sec-

ond. The man was nice about it, he apologised to me right away for scaring me. He was one of them D.P.'s I'm sure because he couldn't talk good English. That stuff that came out of it made my nose kinda itchy . . . made me sneeze. But I have hay fever and sinus, you know, had it for years. Maybe there was nothing to it."

The tape record of a male patient's report was also peculiar. I played it back, in part, on my own Dictape.

"I was sitting in the Automatic lunch, the big one on Granville. Well, it was full to the doors, just after twelve, and this guy comes in and gets a seat that another man had just left. He wasn't very tall but sort of husky and he reminded me of a guy I know who comes from Slovakia or one of them countries down in Europe. This guy, the friend of mine I mean, he works for Baden Brothers in the Foundry . . . Yeah, yeah, I'm getting to the point in a minute. Well, as I was telling you, this fella who looks like my friend has a pile of parcels and he's trying to manage a cup of coffee at the same time so I give him a hand . . . I'm just about finished with my pie. We get the parcels down O.K. but he upsets one of the bags with his foot on the floor. I start to pick it up and he tries to beat me to it. These guys from Europe

fall all over themselves to be polite. Anyway he grabs an insect bomb that fell out and somehow, I can't for the life of me figure it, he gets the thing stuck and the spray starts to go out all over the place. We couldn't shut it off but it didn't last long. He told me it was a new kind—good for one time only, so it was made cheap. I dunno if that stuff had anything to do with this flu but I know it made my nose itch for a while. Maybe that did it . . . I knew a guy one time that . . .”

I shut off the tape and turned to another report.

“I was in the Paramount,” she said, “watching that new Tri-Di movie they call *High Time* . . . it's a sort of a Western and musical all mixed up. It's a real good movie but that three dimensional stuff scares you when they show a fight. I don't think that's too good for little kids, do you? It was the part where the hero, what's his name, oh yeah, Bert Blaine, is getting romantic with Nellie Golding just before he rides away to catch the killer. It's kinda sad too and all of a sudden my eyes started to water. Well, I'm sentimental, you know, but I don't cry that easy and anyhow I hadn't felt like crying just yet if you know what I mean. It was more like an itch. I looked around in the dark to see what might be wrong and then I

noticed a hissing noise like a radiator leaking. I leaned over to ask the man in the next seat if he heard it too but right about then it stopped and he got up and left. I don't know how he could have anything to do with it but I know my eyes and nose were itchy for a long time. I'll just tell you that I must have got the flu from that. My mother says that's nonsense but I don't care.”

The rest of the reports were routine. Some noted exposure to colds but none to mumps. The three unusual stories I dismissed as having no real connection with the epidemic. Aerosol sprays of all shapes and sizes are so common nowadays that they are used in every kind of commodity which can be packed that way. I know of no disease caused by the gases they contain unless it be allergy to the various insecticides and other chemicals spread by the gases. People often have peculiar ideas as to what starts a cold. The statisticians had run off the figures, including the odd possibilities, on the Minicalculator at the Department of Health and their report stated there was no significance in such stories. So I guess that settled that in this mathematically minded era. Sometimes I wish that medicine were the art it used to be instead of the statistical science it has become. But I never did like mathematics.

Shortly after noon I gave up and strolled down to the Culture Room, looking for Pat. I found her busy with a dentist's drill, in the old fashioned way, cutting holes in the shells of fertilized eggs and transferring virus cultures from old eggs to new. Between the cap and mask only her cool grey eyes were visible, intent on the thin membranes that pulsed above the tiny heart of the young chicken. Her fingers were quick and sure as she injected the virus then released the opening with scotch tape, or sometimes with a glass coverslip, sealed around the edges with vaseline. Hallam wasn't too keen on the new short wave cutter and plastic film technique. When she paused for a moment to flame her needles I rapped on the glass partition to catch her attention and then made eating signs. She nodded and, a few minutes later, we sat over sandwiches and coffee in the hospital restaurant.

"How did the morning go?" she said, finishing her sandwich and starting on a second cup of coffee.

"The old man was needling me the way you needle those eggs of yours," I grumbled. "We don't have the private life of goldfish around here. The girls were hinting for information too."

"What do you expect," she laughed. "After all, you're the

most eligible bachelor in the place."

I wandered over to the counter for a pack of Exports. The noon Sun was out and I saw the lead story. "Flu Epidemic Disorganizes Seattle, Tacoma, Portland." I bought the paper and went back to Pat.

"We're not much ahead of the news hawks," was all she said.

As we passed the front office, on the way back to Virology, Rosie waved at me.

"Dr. Macdonald, you're wanted in the Conference Room right away. And you too, Pat! There's some sort of big pow-wow. Tissue Path., Biochem., Bacteriology, Public Health, and all the clinical services too!"

"O.K. Thanks, Rosie," I said.

We went on up the stairs. The Director didn't like the elevators used, except for freight, so we all had to walk. Probably it was better for us too, I thought, comparing the slight shortness of breath I noticed on second floor with the way I'd hiked over the hills around Kumwha during the Korean truce talks of 1951, when there was nothing to do in my Battalion Aid Station but take morning sick call. But I'd sat in a lot of chairs since then.

The Conference Room, next to Dr. Hallam's office, was already crowded and he waved at us. "John, you find a spot somewhere

along the wall. I'm afraid we can't seat everyone and I want department heads at the table. Pat, would you mind taking notes? Sit here beside me." He winked at her. "That is, if John trusts me."

The few remaining spaces were now filled and the Director stood up.

"Gentlemen, some of you know why I have arranged this meeting but the rest of you are still wondering. You may or may not agree with what I shall have to say, but, because of its unusual nature, I must have your promise that you will not repeat, outside of this room, what you will hear in the discussion that follows. Is that clear?" He paused and looked around the room. "Anyone who does not wish to give such a promise will please leave now, before we start."

I could see their faces from where I stood by the windows. Joe Armstrong, Chief of Medical Services, sat on Hallam's right. His dark, heavy-featured face was calm as he looked straight ahead. He knows, I thought. Beside him, Bruce Thompson, Chief of Surgery, lifted his bushy eyebrows and turned to whisper a quick question at Joe. Obviously he didn't know the secret, whatever it was. I looked on around the table. About half-way, I saw Ray Thorne, one of the best obstetricians in town and an old

friend of mine. He caught my eye and winked. The Chief of Ob. and Gyn. wasn't there. Ray must be standing in for him. I wondered what the boss would have to say that could interest their department.

Hallam was talking again. "About a week ago, here in Vancouver there was a sudden outbreak of disease which, aside from a few unusual occurrences, seemed to be influenza. Now, in the past two days, we are confronted with thousands of new cases. You have seen the reports in the newspapers, I'm sure. I have been in contact with the public health authorities here, and also in the States of Washington and Oregon. The situation down there, especially in Seattle, Tacoma and Portland, is every bit as bad as it is here." He paused for a full five seconds. "Gentlemen, I believe this is no ordinary epidemic. I believe this may well be a man-made disaster!"

"For the love of God, George!" I don't know who said it, but it echoed all our thoughts. I could see the astonished and incredulous looks on the faces of all the experts as they watched him, standing there so straight and solid and sane.

My mind was racing about, trying to find reasons for his amazing assertion. Maybe he wasn't really serious, I thought,

only to dismiss the idea immediately. Another look at that stern and sober face and I knew he meant it. And only a few moments ago he had been laughing and joking with Pat. I remembered a story I'd heard about him in World War II, how he had been in a Field Hospital with his New Zealand countrymen at Cassino and, during a heavy bombardment, had sat quietly joking with patients who could not be moved to safety. So, it could be true. If he could make jokes in the face of death, he could laugh during a disaster.

The buzz of conversation ceased as the Chief went on. "As of this morning there were fifty thousand cases in Vancouver city alone, with no tallies in, as yet, from Burnaby and New Westminster. More are being reported every minute. The hospitals are filling up even though they take only those with complications; and there seems to be no end of it so far. It's like the 1918 pandemic all over again but with some very peculiar differences." Again he stopped and turned to Dr. Armstrong. "Joe, do you see any differences clinically?"

Armstrong got to his feet. "Yes, I do, George," he said, in his slow careful way. "For one thing, it is the most explosive epidemic I have ever seen. Usually they start with a few cases

and, after an incubation period of two or three days, a fresh batch of victims appears, growing in number each time. Here we have hundreds, all at once, then none for about five days or so, then thousands. It does look almost as if something or somebody had infected them all at the same time."

"My God," I thought, "not you too, Joe! Not old steady-boy down-to-earth Armstrong! Shades of the flying saucers!"

He continued. "The time lapse between the first outbreak and this new surge of cases is approximately five days, which is just a little longer than usual for influenza. Also, as Dr. Hallam has already mentioned, there are some peculiarities in the clinical picture. For instance, we are seeing patients with enlargement of the salivary glands . . . not many of course . . . and a few with orchitis. We even have the occasional female with what could be inflammation of the ovaries. That makes me think of mumps except that the time between the first and second waves is much too short, and anyway most of these people tell me they had mumps as a child."

One of the public health men down the table broke in. "I remember back in 1956 there was some sort of epidemic pleurisy, or Q-fever, in California, in which there were cases with in-

vovement of the salivary and sex glands. It was quite an unusual thing but I don't remember the outcome. And there were miscarriages in the '57 flu epidemic, so the ovaries were probably involved in some cases. Nobody can say those weren't natural epidemics."

"Yes, that sort of thing does happen from time to time," Armstrong agreed. "We have to postulate a mutation in the virus. Even today we haven't classified them completely and this one could be a new variety with an odd life cycle. There's one good thing about this," he concluded, "although it seems to be far more infectious than anything we've ever seen before, it isn't anything like as dangerous as the 1918 flu, or even the 1957 pandemic. We haven't had anyone die yet. Most of them are well in three or four days after the fever begins. Maybe that's because we have the antibiotics to take care of the secondary bacterial invasion. That's what caused most of the pneumonia and all the other complications that killed so many people in 1918. Frankly I'm not worried, even though I talked it over with George, here, before the meeting. I think probably everyone will get it since people who have had the ordinary types of flu or flu shots do not appear to be immune. But it's no worse than a

cold. When almost everybody has had it, it will die out. I don't agree with Dr. Hallam. I think it is a natural epidemic."

He sat down, the tension in the room already eased by his calm and sensible summary of the facts.

"What do you say to that, George?" Thompson sliced the silence with his question in the same decisive manner as he made his surgical incisions.

The Chief smiled at him. "Right now I can't prove a thing, Bruce. All that I have is suspicion . . . call it a hunch if you will. That's why I don't want any loose talk. The whole pattern of this epidemic, and of the virus that seems to be the cause, is foreign to my experience. The electron microscope pictures that we have, so far, show a particle that is different in shape and size to our known influenza viruses, and to any other ordinary disease virus. Our serological tests don't identify it. The Biochemistry Section has been working on it twenty-four hours a day. As yet they haven't got too far, but far enough to show that there are definite differences in the molecular pattern between this virus and influenza as we know it. It seems to be a simpler than usual pattern, reminiscent of the synthetic viruses we made some years ago. There are some amino acid groupings like those

of the mumps virus too, which could possibly account for its affinity for the salivary glands. I think it will prove able to transmit its characteristics indefinitely from one generation to the next—it has, so far. We have it growing in chick embryos right now but it's too soon to be definite about anything. If it continues to transmit all its characteristics, that would be a possible argument against my theory that this is a man-made epidemic." He paused for a sip of water from the glass in front of him.

"Would you care to elaborate on your theory?" Smith, the tissue pathologist interrupted, his long narrow chin thrust forward and his deep-set eyes intent on the speaker.

"Be glad to, Tom," Hallam agreed. "I believe this is a man made epidemic, as I said before. The timing is too orderly, too sudden, to be natural. I suspect, because of its unusual structure, especially the resemblance to previous experimental viruses, that this is a synthetic virus, made up either from relatively simple chemical compounds or perhaps from particles of natural viruses recombined in a different pattern. As you all know, it has been possible for years now to take a virus apart, so that it will not reproduce, and then put these parts together again, not from the same culture, but just

as if you took parts of a motor from the stock bins and assembled an engine. When it is reassembled with parts similar to the ones it was originally made up of, it will reproduce again just like the natural virus. We have also been able to crystallize many viruses and then start them growing again by putting the crystals in the proper nutrient solutions. Recently it has been possible to combine amino acids and other chemicals into simple forms that act much like viruses but are not quite the same. But there is one obstacle that we have not yet overcome. Whether we have recombined different parts of various viruses or whether we have made up amino acid combinations, it has not been possible to have this synthetic virus transmit all its characteristics from generation to generation. It breaks up; it is not stable."

"But you all know this." He stopped to light a cigarette, gathering his thoughts as he watched the end glow. He exhaled little gusts of smoke as he spoke again. "As far as I can tell now, this virus is unchanged through each passage in the egg, which might put it out of the synthetic class. Mutations have been induced artificially by using chemicals such as the sulfonamides to interfere with the life

cycle. This has turned some disease viruses into harmless types, but, unless the Americans in their Biological Warfare Center have done it, and they aren't talking of course, the reverse is not true. Certainly I know of nobody in the democratic world who has made such a virus."

There was no mistaking his emphasis. Again Smith spoke up.

"Are you implying that the Communists may have produced such a virus?"

The answer came slowly. Hallam was frighteningly serious now.

"Yes, I believe it is possible. In the last few years there has been a tremendous amount of research on viruses and nucleoproteins in Russia. Kaganovich and his associates have published some very advanced work on the synthesis of proteins and Magidoff is an outstanding virologist by any standards."

"Ay, that's true." Ian Gordon, the little sandy haired biochemist burst out in his broad Scots brogue. "And I wouldna think they've been puttin' out all they know either, if I'm to judge from what they said at the last International Conference in Stockholm."

"But where's the point in all this?" Joe Armstrong exclaimed. "This stuff isn't deadly; it isn't even serious, now we have the antibiotics to prevent complica-

tions. As a secret weapon it could have no more than nuisance value. Personally, I think old George may be chasing something red, but it will turn out to be a red herring instead of a Communist."

There were smiles all around the table. Even Hallam grinned. He and Joe had been great friends and sparring partners for years.

Joe went on, "I believe this is just one of those wild mutations that crop up occasionally and cause big epidemics. True, I can't explain the amazing suddenness of its onset, but to call it bacteriological warfare is just ridiculous."

"I can't deny what Joe says, but he can't prove I'm wrong either," Hallam retorted. "I hope I am but I wanted you all to know what I think so you will keep alert for any evidence for or against my theory. On the face of it, as Joe says, it seems ridiculous that any enemy would bother with such a harmless weapon. But it could be a trial run for something much worse. I have tried to keep my emotions out of my appraisal of the facts and when I do I still say that this thing is not natural. Once more I would remind you not to talk about this outside. It could start up a lot of trouble. That's all, thank you, gentlemen."

I was going out at the tail end

of the crowd when the Chief lifted his chin at me in the come-hither sign. I stayed. Pat stayed too when he put a restraining hand on her shoulder.

"I suppose you think I'm way out on a limb, John," Hallam said quizzically.

"Frankly, sir, I thought Joe Armstrong had already sawed it off."

"Then I take it you aren't in favor of the virus warfare idea."

"Well, I did get a bit tired of B.W. talk in the U.S. Army. Down in the States they scare little kids with the word red, but after a while it loses its shock value."

"You'll have to admit this is a very unusual epidemic," he countered.

"True, but as Dr. Armstrong said, what possible purpose is there?" I lifted my shoulders and turned up my palms to emphasize my doubt. "Suppose the Reds are responsible. They wouldn't do it just to annoy us and I doubt if they would make a trial run in North America before letting the real disease loose. They are much too cautious for that."

"Maybe we haven't found the real reason," Pat broke in. "If this virus is the weapon it must be doing something that hasn't shown up yet . . . some long-term effect."

"I think you've hit it, Pat," Hallam brightened up again. "And that's why I kept you two back here. I want you and John to drop everything else and work with me up in the Research Lab. We'll run a series of tests on our experimental animals until we find out what this virus really does. It may be too late by then to do anything about it but we must work night and day until that time comes. There's plenty of food in the penthouse kitchen. I got it stocked up yesterday. And we will have to use the bedrooms too, if Pat doesn't mind sleeping up there at night with two handsome chaps like you and me." He ogled her like the villain of an old melodrama.

"But sir," she said, playing her part, "I've never slept three in a bed before. Isn't it crowded?"

"Maybe we can arrange to push John out," he laughed. "But let's get up there now. There's no time to lose."

CHAPTER 2

WHEN the Pathology Lab was being built, Dr. Hallam had insisted on a completely separate Research Unit on the third floor. It sat up there, next to the Animal House, a part of which connected with it, and with it alone, so that even the animals were isolated. The unit itself contained a complete set of the most

modern equipment used in virology, equipment which was never touched except on Hallam's order. To prevent outside contamination and also to prevent the escape of harmful diseases, all who wanted to go into the unit had to put the clothes they were wearing into the ultra-sound sterilizer locker, take a complete shower and, in a dressing room where the blue rays of ultraviolet light killed more germs, put on white suits. Naturally anyone with a cold or other obvious disease was barred. All clothes needed for a long stay were processed through the ultra-sound locker and picked up on the other side of the shower room. These precautions were sufficient only for entry to the Penthouse, as Hallam had christened the living quarters. They consisted of a pleasant, if austere, suite containing bedrooms, bathrooms, kitchen and living room, where those who were working on a project would stay for days at a time. To get into the workrooms, it was necessary to wear what looked like modified space suits, which contained their own oxygen supply, and go through a chemical shower guaranteed to kill any living organism. Many of the experimental animals had been delivered at birth by special aseptic techniques and they and their descendants lived in air-conditioned rooms where the on-

ly germs were those introduced deliberately in experiments. Other animals, which were unsterile, were kept in separate rooms and handled by remote control devices as if they were pieces of radioactive material . . . and some of them were, with injections of isotopes coursing through their blood. Even their feeding and cleaning was handled by remote control, by assistants especially trained for the task. At this particular time, all other special work was stopped or transferred to the Routine Lab. The Research Unit was cleaned and waiting for us.

Hallam and I went through the shower routine first and then sat waiting at the table in the living room for Pat. She came in soon afterwards, her cheeks shining from scrubbing and her pink lips, devoid of lipstick, smiling as she tried to tie up her hair with a towel.

"Gracious, that needle shower is rough," she said. "I've scrubbed so hard I must surely be sterile."

"I hope not, baby," I said. "I've got plans for your future."

"Really, John, sometimes you go too far." She blushed as Hallam laughed.

"What do we do now, Chief?" I said.

"I'm not particularly interested in trying to find out the structure of this virus," Hallam said.

"We'll let Biochemistry and the Routine Lab people handle that. I've warned them to be particularly careful. What I should like to do up here is to find out if the virus has any hidden power . . . if it does more to people than just give them the flu. The thing that bothers me is the time element. Right now nobody is really worried. I have to find enough evidence to convince the government so they'll do something. We'll keep passing the virus through chicken embryos . . . we know it can be kept alive that way; and we'll put it in Hela cells and any other tissue culture we have, both human and animal. They aren't ordinarily suitable for flu virus but with this thing one can't tell."

He turned to me. "How many ferrets have we?"

"I can't say exactly, I haven't been here since my vacation. But there were plenty."

"And monkeys?"

"Do you want them for monkey kidney culture, or what?"

"No, I want to give them the flu and then see what happens. It could affect ferrets in a different way than human beings. We can't use people so it has to be monkeys."

"Well, we have more than a dozen, if we take all varieties."

"That'll do nicely. Pat, you might start on mice after you inoculate a fresh batch of eggs.

John and I will tackle the ferrets and monkeys. They're difficult for one person to handle easily. And we'll do hamsters and guinea pigs too. Something ought to show up in a day or two."

Hours later it was finished. It isn't the easiest job in the world to inoculate ferrets and monkeys with virus, especially when it had to be put in their noses. Those nasty little weasels can bite and even through the puncture proof gloves I felt the pinch when one of them got loose. The monkeys weren't much better. Finally, covered with sweat inside my suit, I came back through the chemical shower, the water shower and the dryer and opened the headpiece for a breath of fresh air.

"You'd think they could have air-conditioned these damn suits," I grumbled. "Say Pat, when do we eat?"

Pat had just got the helmet off and was fluffing her brown curls, flattened down by the green surgeon's cap she had been wearing underneath it.

"Just as soon as you leave and let me get out of this diver's suit," she said.

Hallam winked at me as he opened the door. "Too bad these suits aren't transparent."

We were sitting around the table over the remains of steak and french fries when the mid-

night news reports came over the TV. There was nothing more to do at the moment; the animals were not yet sick even though we were hoping for a much shorter incubation period in the ferrets than in monkeys or man. It had to be shorter if we were going to do anything in time.

"First the British Columbia news," the announcer was saying. "We now have reports of outbreaks of influenza in the Interior. Kamloops has several hundred cases. Kelowna and Princeton hospitals are full. Across the border, Yakima and Spokane report a similar situation."

Hallam cut in. "There it is again. A sudden explosive outburst! It's not right, I tell you. It's not natural!"

"We now turn to the international scene." A brightly colored map of Europe appeared on the screen and, as the announcer spoke, he pointed. "Here, in the West German Republic, there are reports of an influenza epidemic that may be similar to ours. Apparently the Communists in the new country of Prussia, until recently called East Germany, feel it is serious. They have closed the border. An airlift to Berlin is beginning and the West Germans have requested the return of American and British transports to their old bases since their own air fleet is insufficient

for the task. There are scattered reports from Yugoslavia which may indicate an epidemic there too, but the Tito government refuses to confirm this." He paused and the picture shifted to a map of the Far East. "Over in the Orient we have a different story. For the past several weeks there have been persistent rumors of a strange disease ravaging Tibet and West China. Communications are poor, of course, and the Chinese Communists have not authorized any official announcement. However, it is said that the disease has some resemblance to small pox. Other travellers insist it is more like a severe hemorrhagic measles. All agree that the mortality is high and that the already inadequate medical services of the Chinese, in those areas, are overwhelmed. The Russians are reported to be flying antibiotics to the Peiping government, but claim that they are having scattered outbreaks in Siberia which require their attention. They admit closing all frontier posts, ostensibly in an effort to prevent the spread of the disease."

I looked at Hallam. "Now what?"

He made a face. "My word! This complicates things, doesn't it? Not only are there two epidemics but the Reds have the worst one. If the reports are true, this Asiatic outbreak could

be worse than the Black Death of the Middle Ages."

The TV had returned to reporting the local scene in detail.

"It is now ten days since the first cases of influenza appeared. The second big wave of cases is now passing its peak, the authorities believe, but we are getting thousands more cases scattered all over the city and the outlying metropolitan areas of New Westminster, Burnaby, North and West Vancouver. According to the Department of Public Health, this distribution suggests a disease of extremely high infectivity with about a five day cycle. However they also say there is no cause for alarm. Even though the number of cases is well into the hundreds of thousands, practically no deaths have been reported. What deaths there are have invariably been old people or those whose strength has been weakened by other illness."

He continued for a time but said nothing new and Hallam shut him off.

Pat stood up. "If you-all are going to keep your promise and clean up the dishes, I'll take a look in the viewing window and see how our pets are coming along. Then I'm going to bed."

I groaned in dismay. "Now let's not make a habit of this. I hate doing dishes!"

She pulled my left ear as she

went by. "Do you good. You need the practice!"

"All right, John," said the Chief. "I'll wash and you dry. I should have installed an automatic dishwasher in this place. Didn't think of it at the time."

I'd just dried the first plate when the Intercom buzzed. I pushed the button.

"Dr. Hallam! John! Can you come up right away? I think things are starting to pop." She sounded excited and a bit puzzled.

The big man lifted his eyebrows and rinsed off his hands.

"I guess we'd better get over there," he said, mangling my teatowel to get the water off.

When we reached the viewing room we found Pat, completely engrossed, in the section which overlooked the cages containing the female ferrets. It was a one-way glass, and soundproof, as the weasel tribe are notoriously sensitive to outside disturbances. Pat pointed to one of the cages and said in an unnecessary whisper,

"That ferret is sick. She seems to be in labor."

"It's a good old ferret custom," I quipped.

"Idiot!" She frowned impatiently. "According to her chart, she was only in the early part of pregnancy, . . . not due for a long time yet. She was the first one you inoculated today."

For a while longer we watched. There was no doubt about it. The ferret was aborting. I glanced at the Chief. His face was set, the normally gentle mouth was grim, the lips drawn and thin.

"God Almighty," he whispered. "They wouldn't try it. And yet, what better way?" He straightened up from his seat. Even now he couldn't resist a mild joke.

"When you say things are popping, young lady, I see you mean it literally."

He started for the exit. "Well, it appears that the real work is beginning. I'd hope we would all get some sleep but the flu virus works too fast in these ferrets. So let's go back for some coffee and see what happens."

Bacon and eggs certainly taste good after a long night, I was thinking as I champed into the last piece of toast. I got it down, drained my glass of powdered milk and held up my coffee cup to Pat. She looked tired, a little pale, from lack of sunlight, perhaps, and very thoughtful as she filled it. I touched her hand as the cup passed back to me and she smiled tenderly. If Hallam saw it, he made no comment. I felt sorry for him at times like that. He was, in spite of his friendliness, a lonely man. I remembered now that his fiancée, an Army nurse, had been killed at Cassino

in the unit he commanded. Since that time he had turned to his work for consolation and apparently had never found anyone he really cared for.

"Sir," I said—somehow I never could bring myself to use his first name; habit is strong and he looked too much like a soldier even now, a soldier who commanded respect. "Sir, what did you mean last night, as that ferret was aborting, when you said they wouldn't try it, and yet what better way?"

"I suppose to explain that, I'd better give you my reasoning in this whole business." He looked at his watch. "We've an hour before the next stage of our experiments . . . not enough to sleep. At any rate we can sleep later."

Pat refilled the cups and silently I passed around a packet of Sweet Caps. He lit one and started.

"As you both remember, after Stalin died there was a period of uncertainty and then, when Malenkov gave way to the Krushchev-Bulganin team, the so-called Geneva conference-at-the summit initiated what has been called the peace offensive by the Russians. The Hungarian revolt and the trouble in East Germany and Poland put a crimp in their pious front. That front was still further dented by their obvious interference in the Middle East. But aside from that, the uneasy

truce has continued, mainly, I suppose, because of the fear of an H-bomb war. Except for Tibet, Red China too has been fairly quiet, mostly because she still doesn't have the industrial potential to fight a major war; and the Soviets have procrastinated in helping her because they, too, fear the dreadful potential of such a population, if armed."

"The Geophysical Year saw both Russian and American satellites circling the world and the race for the Intercontinental Ballistic Missile, with H-bomb warhead, seems to have ended in a stalemate. The Russians, the Yanks, and now the British Commonwealth, possess long-range rockets of great accuracy. The next logical step, since both atomic and ballistic wars promise mutual suicide, is into space. There, the two main opponents could spy on each other and neither the Iron Curtain nor the security regulations of the USA would hide secret preparations for a knockout punch. Also, there possibly are immense stores of valuable minerals open to the owners of the moon and planets. But space travel takes time and money . . . and brains. Manned satellites are on the way, but are not yet established facts."

"The Sputniks of 1958 had shaken the States out of its complacency as nothing else could. By 1961, therefore, that country

had reversed its trend in favor of labor and the common man and at last had recognized that it was the uncommon man who had enabled it to achieve its tremendously high material standards. They were catching up very rapidly with the Russians, who for a time had had a preponderance of scientific personnel, and had managed, by sacrificing consumer goods to heavy industry, to keep ahead of the States in the machinery of war. With a stalemate, at least temporarily, in science, the Americans turned back to economic warfare. For a time the Reds, with their lavish promises, had been ahead in this field too, but the deliveries of goods didn't match the promises and gradually disillusionment had set in. So the Americans, who could be depended upon to deliver the goods, gradually forged ahead. As it now stands, they are slowly but certainly pushing the Communists out of all but the captured satellite countries and even there, the years of repression and low standards of living have resulted in several serious revolts in the past ten years. Then too, in educating their people in the attempt to achieve scientific supremacy, the Communists have awakened them to the fallacies of the Marxist-Leninist doctrines."

"Now dictators seldom give up quietly. The Commies are strain-

ed to the limit and in danger of losing. They have to do something—but they aren't fools. You can't have atomic war without suicide. Local wars and political maneuvering have failed. They are losing the economic war. There is only one answer!"

Deliberately he paused to let the argument sink in . . . a favorite habit of his.

"A new kind of war! That's the answer! A war that is over before anyone realizes it has started—and a war that cannot be blamed on them, so there is no danger of retaliation."

He drew hard on his cigarette, butted it firmly, and went on.

"I believe that this present epidemic has been started by enemy agents. I further believe that it is due to a synthetic virus which combines the terrific contagiousness of the 1918 flu with certain features of mumps, and perhaps German measles. I think the virus has been built up in such a way that there is no cross immunity with any natural virus; in other words, having had mumps or flu or shots for either will be no protection. And, to make it even more diabolical, they have deliberately made it a mild type of infection so that almost everyone gets better, and people are therefore not concerned about it. As Joe Armstrong said, the stuff isn't seri-

ous. So why suspect sabotage until it is too late."

"But the Russians themselves are reporting cases," I said, "and how do you explain this pandemic in Red China that's killing off so many people. That is an entirely different disease."

"I agree," Hallam said thoughtfully, "and that's the beauty of the whole plan. If you learn to make one virus that transmits its characteristics, you should be able to make others. A killer virus let loose in North America would alarm the entire continent overnight. Our public health people would isolate whole cities, if necessary, and probably eliminate it before it got out of hand. We have no quarantine for this epidemic. Nobody is worried about it and many authorities feel if a big epidemic cannot be controlled by their inadequate medical staff they might as well be killed off now."

"You mean the Soviets want to eliminate the Chinese too?" Pat was incredulous.

"Yes, I do." The Chief nodded emphatically. "They want to rule the whole world, not just a part of it. As time goes by, the Chinese are more and more of a threat to their supremacy. That threat must be eliminated."

"What about reports of flu and the new small pox thing in Russia and Siberia?" I asked.

He was almost enthusiastic. "It's a lovely plan. Yes, lovely, if it weren't so horrible in its implications." He paused to drain his cup. "For the past several years there has been very strong emphasis on public health measures in the USSR. A tremendous drive for vaccination against polio, small pox and various other communicable diseases has resulted in the immunization of millions of children and adults. I'll bet if we could get some of those vaccines we'd find the antidote to both our flu virus and the Chinese small pox-measles, whatever it is. I think there has been deliberate selection of part of the population to carry on the Soviet system and the rest will be sacrificed just to fool us. After all, the Reds believe in genetics as we do, now that Lysenko and his theories are discredited, and what more logical than breeding a better race?"

"I'm not quite sure I follow that last part," I said. "Only the Chinese are being killed off."

"Only the Chinese are dying, as individuals," Hallam spoke slowly and emphatically, "but I fear we are also dying—as a nation!"

CHAPTER 3

THE sloop bucked a little as the bow chopped into a wave and fell a few points off course. The

steady chugging of the small marine engine pushed her on, sidling up over the low rollers and sliding down the other side joyfully like a little kid on a playground coaster. The wind was cool and gentle, the sun bright in the southeast. We were running north, close to the coast, with Bowen Island and Gibsons already far astern. At that time of year, and in the middle of the week, traffic was light. The nearest ship was only a smudge on the horizon. I bent a line around the tiller and went below.

In the starboard bunk Pat lay sleeping quietly. A light breeze from the port floated a wisp of hair and dropped it back on her forehead with each lift of the bow. I bent over and kissed her gently on the mouth. She smiled faintly in her sleep and her arms came up around my neck as she began to wake up. I disengaged them gently.

"Go back to sleep darling. It's not time for your watch yet."

I straightened the covers over her, and went into the tiny galley.

The coffee was hot and the eggs I had set on the stove previously were boiling. I sat down to eat. The benzedrine I had taken to keep me going all through the night was wearing off. I could feel the faint quivering of fatigue in my arms and legs. My eyes were dry and burn-

ing a little. In two or three hours I could wake Pat and get some sleep myself. In the meantime all I had to do was to steer the sloop north, towards one of our favorite islands, a small, uninhabited, rock and tree covered hump where we could be alone to rest and relax.

And as I ate quickly and quietly, as I cleaned up the dishes and went back on deck, the words of Dr. Hallam kept running through my head like a squirrel through a maze, darting and searching for the answer. "Only the Chinese are dying as individuals, but I fear we are dying—as a nation!"

I had sat there, flabbergasted, my mouth open like a moron, the incredible statement echoing through the suddenly empty chambers of my brain.

"The ferret . . ." Pat spoke through the horror-stiffened fingers that clawed at her mouth. Her eyes stared widely at the deliberately composed features of the director.

"Yes, my dear . . . the ferret."

"Oh, no . . . Oh, God no . . . not now!" It was not a cry of anguish for the world but something personal, deeper, a cry of despair.

"What's all the fuss about?" I said crossly. "I don't get it." I turned to Pat. "What're you having a hissy about?"

Hallam looked at me with patient resignation.

"If you were a woman you'd be having a hissy too, as you call it."

"That's her word for it sir," I said. "If you two are all up in the air because a ferret has an abortion I can't see why. There are plenty of diseases that affect animals differently to man. What about undulant fever? It causes abortion in cattle but doesn't affect pregnant women any more than many other serious diseases do. So a ferret drops its kittens! So it might have done it equally with any other high fever."

"You're quite right John," Hallam said, "but remember, this is no ordinary disease. This is a secret weapon and, if it does cause miscarriages and perhaps permanent damage to the ovaries, the result will be a catastrophe for the West."

"Doggone it, Chief, if you'll pardon my saying so, you're getting positively paranoid about this whole business. We haven't a shred of real evidence so far."

"Again you're right, but this is one time where intuition and a high index of suspicion should prevail over cool scientific detachment. We haven't got time for a series of controlled experiments. We've got to guess, and guess right!"

"He's right, John!"

"OK Pat, OK! Trot out your

woman's intuition and we'll all fly off into the wild blue yonder. I only hope we don't come down with a dull thud."

"All the ferrets are snuffling with the flu," Hallam said. "It's unfortunate that only one was pregnant, otherwise we might have had confirmation of our hunch by now."

"I haven't heard of any increase in miscarriages among pregnant women who got the flu," I said. "To me that's pretty good evidence that the bug doesn't affect human beings that way. For that matter, there were more reports of testicular involvement than of ovarian disease."

"If it does affect pregnant women, maybe it affects the fetus. Maybe children will be born deformed like the cases of German measles in early pregnancy," Pat said.

"That's a gruesome thought," I said. "You two give me the creeps this morning." I looked at my watch. "Lord it's five o'clock! This has been a rough session."

"And not finished yet," groaned Hallam, pushing up out of his chair. "Only the ferrets are sick so far. We'll sacrifice a few females . . . and some males too. Send them down to Smith for examination. He has a doctor and technicians on twenty-four hour duty and they

can get cracking right away. Tell him to concentrate on glandular tissues, with first priority for the sex glands. And get cultures from the usual tissues before you send them down."

"Will do," I said, and left the room.

I was back in half an hour. Both Pat and Dr. Hallam came into the living room shortly afterwards.

"None of the other animals show any sign of illness yet," Pat said. "We'll have to wait a little longer."

"Look, I don't think anything will happen for the next twenty-four hours," the chief said. "Why don't you two buzz off. Relax all you can. There's a busy time coming and you won't be able to get out again for a while. It's early . . . you could get down to the boat and go for a sail. Keep away from people; I don't want you catching the flu. Come back early tomorrow morning so nobody will be around."

"What about you?" Pat and I said it together.

"I'll get some sleep now and then putter around and read until I hear from Smith."

"Smith was there himself. He said he would do some frozen sections as well as the usual paraffin."

"In that case I shall have some more toast and coffee and wait up for the reports. But you had

better go now. It will be six o'clock before you get out of the building. Any later and there will be too many people about."

So here we were, running up the coast and running away from the world's troubles, if we could, for one bright day. I went below and woke Pat.

The sudden quietness as the motor died aroused me with a start. I sat up and looked through the porthole to see trees and rocks gliding slowly by. I recognized the little patch of brown sand set between two large green lichen-covered boulders. The anchor went down. We were at our island.

There were still two or three hours until sunset. The air was warm and the water calm in the sheltered cove. I yawned my way up on deck to see Pat, in a low cut bathing suit, spreading a large blanket for a sunbath.

We sat down on the blanket and she leaned over to pass me a cigarette. I took it, being careful not to look directly at her. There was much too much to see and my blood pressure was already high enough.

We smoked in silence for a while, watching the seagulls preen themselves on the rocks to which they had returned when the boat stopped moving.

"John, do you really believe the virus is a natural mutation?"

"I don't know, Baby, I just don't know."

"Then why do you keep arguing with Dr. Hallam about it?"

"I'm not arguing, Baby. I'm trying to keep this thing within the bounds of reason. We haven't a single bit of evidence yet to prove it isn't a natural disease, so why go overboard?"

"The structure of the virus isn't normal."

"So far, that seems to be so, but that doesn't prove it's synthetic either."

"But what if it does cause permanent damage to the ovaries?"

"Then, Toots, this old continent of North America is in one hell of a fix."

"I can't imagine how I'd feel if I got a disease and knew I could never have children."

"There are plenty of people that way now."

"Not millions of them, and not me! I always wanted babies but my husband wanted to wait. He was too busy making money . . . and having a good time."

"A good time with whom?"

"That's the question that finally broke it up. It's just as well there were no children, I suppose." She leaned over towards me and put her hands on mine. "If I ever marry again, I want a man who wants children."

This time I looked straight at her, and the hell with my blood pressure.

"I want your kids," I said, and pulled her down into my arms.

She broke loose after a while, though I could feel her quivering. It was always the same. I had never been able to break down that last little bit of resistance, that fear of being hurt again. Maybe I never would. I sighed resignedly and sat up.

"Might as well go fishing," I said and I went to lay out the lines and hoist the mainsail.

The wall of fog had been moving towards us over the empty sea like a great, flat-topped Antarctic iceberg, shining whitely in the gold light of the Western sun. Beside me, the mainsail hung slackly from the mast, the edge flipping idly in a stray puff of wind. Slowly the white cliff approached, and as slowly changed to an amoeboid mass of vapor, tumbling lazily, sending out streamers that twisted and vanished as they reached too far from the cool mother mist. One, stronger than the rest, waved a filmy pseudopod over my head and, for an instant, the gold light whitened. Another came, and another, and then we were gone, into the soft wet coolness of the seaborne cloud. The light faded, both from the fog blanket and from the setting of the sun. I hauled in the fishing lines and stowed them. I lit the running lights. I was shivering

as I secured the sail, checked the gear and went below.

In the little triangular cabin, tucked under the forepart of the sloop, Pat was busy. The hissing of the pressure lamp and the crackling of hamburgers on the stove made a pleasant, home-like sound. It was cosy and warm here, in contrast to the fog-chill above. The smell of onions and beef drifted back to where I stood and I sniffed hungrily. She'd be a good wife, I thought as I watched her, and a good mistress too. She was still wearing her bathing suit and, as I looked from her full brown thighs up over the curving hip-line to the small breasts pushing against the thin bra, I felt the slow pounding pulse and deep excitement of desire. Quietly I came close behind her. She started as my cold hands touched her, the instant of realization passed, and then she came back hard against me and her eyes were on mine as she turned her lips for my kiss. For a moment only she stayed, then, with a backward shove of her body, she tried to push me away.

"Look, darling, this is all very nice, but the hamburgers are burning."

"Let them," I whispered, my hands roving a bit. "I'm burning too."

"That can wait." Her eyes seemed to promise me as she

brushed at a stray brown curl with the back of her hand. The spatula, waving above her head, flashed in the flickering gas light. I let her go.

"Why don't you fix us a drink? There's time before we eat."

"If I drink too much I won't want you or the hamburgers either," I complained, but I went to the cooler and pulled out the gin and vermouth. "Someday," I thought morosely, "someday, she must give in."

I put her drink in the shelf where she could reach it as she worked and squeezed between the bench seat and the folding table while I watched her toss a salad. As a medical technician she was good, and the same thoroughness and skill went into her cooking; into everything she did for that matter.

The drink was good and the salad sat before me in its green crispness. Pat was lifting the hamburgers off the fire and, as the cracking ceased, I felt a low, insistent, base rumble rise above the hissing of the lamp. The night was quiet, no foghorns because there were no ships near enough. We had drifted fairly close to the mainland, behind some small islands, off the usual channels. The auxiliary motor was still shut down and for a moment I wondered if the currents had carried us in towards the rocks; but the noise was not

the splash of waves on shore, it was too steady. Now Pat was standing, frying pan and spatula in either hand, and her straight dark eyebrows down in a frown of concentration.

"Do you hear it too?"

She nodded.

"Keep the hamburgers warm, I'm going up to have a look."

She moved back to the stove as I climbed up into the cockpit.

In a rising breeze the mist was swirling and, from the east, as the fog patches thinned out, the lighter cloud showed where a full moon lay hidden. The noise was louder now, and coming fast, a beat of engines rising above the splash of wavelets against the bow of the sloop. I couldn't see where the ship was. There was no foghorn; neither the doleful groaning of the deep sea ships nor the sharp cough of the coastal steamer, bouncing its sound waves off the island hills, told me where it lay.

"The stupid oaf," I muttered to myself. "What's he doing in this deserted channel, and why doesn't he signal?"

There was no time to wonder. I jumped to the stern and grasped the tiller while I pushed down firmly on the starter button. The engine was cold and coughed reluctantly in the foggy air. I was still prodding the starter and working the throttle



Virgil
Timley

when the fog bank broke apart.

Above, to the east, the mottled moon, pale grey and blue like a Danish cheese, had risen over the Coast Range. Across the waters of the channel ran a rippling bar of light, cutting in half the white-walled arena of fog as the late afternoon sun pierces the dust of a Mexican corrida. Charging out of the misty north, like a Miura bull from the gate, came a black, high-prowed ship, moving fast through its phosphorescent bow wave. It came on, straight for us, and the sputtering motor still did not respond. I stood up and worked the tiller back and forth, trying to scull with the rudder and swing our bow to starboard.

"Pat, Pat, for God's sake get on deck! It's a collision!"

I was still yelling when the thick black mass rose over me and the bowsprit of the sloop splintered and buckled. The jolt threw me to my knees but I held the rudder hard over and we slid by, bumping and scraping along the port side of the vessel.

It was not a big ship, but bigger than a halibut boat. It seemed about the size and shape of those floating canneries I'd seen in Hokkaido when I'd worked with the Japanese National Police in 1952. I don't know whether that thought was first in my mind or whether it came later but I do know, in the

middle of all the confusion I heard a command screamed out in Japanese, and the answering "*Hai*" barked back as only the Japs can say it. I thought I must have been mistaken when, a moment later, I saw the man. The moon was full on his face as he leaned out over the side, near the stern. For an instant we were quite close as I stood up, cursing the stupid so-and-so's who were ruining the beautiful woodwork of my boat. He was fair-haired, with a short brush cut. The eyes were deep set and shadowed too much to see the color. His face was broad, with high cheek bones, and the mouth wide and heavy under a short nose. I couldn't tell his height, but he looked strong and stocky. His hands, gripping the rail, seemed powerful even in that light. As we passed, the moonlight caught them and was reflected in a dull red glow from some large stone, a ring I presumed, on the back of his left hand. He didn't move or speak and I lost sight of him a second later when the pitching of the yacht in the stern wash threw me again to the deck. By the time I recovered, the steamer was across the open space and plunging back into the fog. In the swirling mist of its passage the flag at the stern fluttered out straight. It looked like a red ball on a white field.

"The hamburgers! My God, the hamburgers are on fire!"

I turned around, still dazed, to see Pat unscramble herself in the cockpit and drop back into the galley. I left her to it while I checked the wreckage of the port side fittings. We weren't holed, thank Goodness, so we could run for home under our own power. I steered in close to the shore of one of the islands where the fog had lifted, and dropped anchor. Then I went below. Pat was at the stove again. A new batch of hamburgers was under way and only a stain on the floor showed what had happened to the first lot.

"Mix us a drink, a big drink," was all she said, then.

The hamburgers were gone and we sat over our coffee. I was drowsy from the warmth and the hot sweetness of the Drambuie felt good as I took it slowly. Pat was rolling hers around the liqueur glass and watching the oily liquid slide back to the bottom. A quiet woman ordinarily, she was extremely so this night.

"Why so quiet, darling?" I reached for her hand. She looked at me and said nothing.

"Is it that damned ferret again?"

She nodded.

"Don't let it worry you so much, sweet. It's only a hunch and I don't think he's right."

"What if he is right, what then?" She went on without waiting for an answer. "I want children, I don't want to be sterile."

"Well you aren't, or at least I don't suppose so. Probably you won't be."

She looked at me scornfully. "What chance have I of avoiding the flu when millions of others are getting it?"

"Oh Lord, you women! Can't you see there's absolutely no evidence for this silly fear of yours? Damn Hallam and his wild ideas! Why don't you forget it?"

"Because I think he's right, that's why. She stood up abruptly. "Let's go on deck."

I followed her out into the cockpit. We were still at anchor, intending to start back after a few hours sleep. The sloop was as quiet as a resting seabird in the black shadow of a rocky point. It was cold. In a few minutes Pat shivered and came close to me, her arms about my waist. The keen air had awakened me, and, as I caressed her, smoothing away the little pebbles of gooseflesh on her shoulders and back, her warm body against mine stirred again the desire I had felt before the collision. She must have known. Slowly her arms came up and around my neck. Her head, cushioned on my chest, lifted and her full lips

brushed mine lightly. For a moment I hesitated. Through the thin suit she felt naked under my hands, trembling with cold and excitement.

"I can't take much more of this, Pat," I whispered. "Either you quit right now or you go down to bed."

Her eyes opened. She looked straight at me for a long moment.

"Will your bunk hold both of us?" she asked as her lips closed hard on mine.

CHAPTER 4

WE came back through the big glass doors hand in hand. The night watchman, making his last round, nodded and smiled at us as we wound up the stairs to the penthouse. We went through the showers together since nobody else was about. I scrubbed her back to get rid of the salt sea crystals and was rewarded with a warm, wet kiss. We reached the living room just as Dr. Hallam, freshly shaven and bright, came in for his breakfast.

"Welcome back, kids!" he boomed at us. "Did you have a good time?" He looked closely at Pat.

A slow flush deepened the color of her cheeks and he grinned elfishly. "I see you did. Well, let's have some breakfast.

I have news for you and plenty of work, so eat heartily."

He pushed the toaster buttons and the bread dropped out of the cooler-keeper and lowered itself into the heating element. I set three cups and three glasses under the dispenser and dialled tomato juice and medium strong coffee. Pat cracked six eggs into three plates, added bacon and pushed them into the slots in the electronic oven. A minute later, with his mouth full of toast and egg, Hallam mumbled,

"After you left I waited for about two hours before Smith phoned. He had a preliminary report on the female ferrets. You'll be glad to hear this, both of you. He couldn't find a thing on any of them."

"Wonderful!" Pat breathed, and smiled at me radiantly.

"What about the pregnant one?" I said.

"There were only the usual changes in the ovaries associated with pregnancy. "Mind you," he went on, "even with the new techniques, frozen sections are far from perfect, but I must admit I'd be disappointed if I weren't so relieved."

"Did the male ferrets show anything?" I said.

"He wasn't sure. He thought there were some inflammatory changes in the testicles but he wanted to wait for the paraffin sections to confirm it."

"Was there anything else?" Pat asked.

"Nothing except bronchial irritation, which one would expect."

It was eight o'clock when the telephone rang and I picked it up.

"Dr. Macdonald here," I said.

"Mac, is the boss in?" Smith asked.

"He's busy right now. Can I take a message?"

"Yes. Tell him the H and E's on those ferrets show only mild ovarian inflammation. The testicles are definitely inflamed . . . a low grade thing with a lot of lymphocytes. There is swelling and some degeneration of the sperm cells but it doesn't seem to affect the hormone secreting elements."

"What about other organs?"

"Aside from nasal and bronchial inflammation, essentially negative."

"Have you any suggestions?"

"It's too early to come to any conclusions but I'd like to follow up on this. How about taking biopsies on the male ferrets rather than sacrificing them. Then maybe we can see what is happening, I mean what the progression of the disease is, in the same animal. You could snip out a piece of ovary on some females too!"

"It isn't easy but we can do it."

"How about the other animals?"

"Some of the mice look a bit sick this morning, but the monkeys are still healthy."

"Well, if you can get the biopsies to us soon, we should have a good idea, late tonight or tomorrow morning, of what's going on. Say, I just had a thought! Didn't George inoculate some ferrets when the epidemic first broke out?"

"I wasn't here but I believe he did. Why don't you ask Harry? He was working with the Chief when I was away. All those animals are in the other section anyway."

"I'll do that. With yours in the acute stage and the others convalescent, we should get a good idea of the progress of the disease. I'll let you know later."

Hallam was in the ferret room. I joined him there and told him of Smith's suggestions.

"This is going to be quite a day," he grinned wryly.

He was so right. It took several hours, and innumerable bites and scratches from indignant animals, fortunately the plastic gloves were tough enough not to tear, before the last snarling male writhed back into his cage to lick his smarting personal property. We stopped for lunch and went back to the more complicated task of operat-

ing on the females in the afternoon.

In the meantime, the testicular biopsies, in their fluid-filled bottles, were on their way to Tissue Path., to join those that Smith and his residents were already preparing from the convalescent ferrets. Speaking into Dictape machines, the junior residents described and numbered the specimens while deft-fingered girl technicians wrapped them in little packets and put those in tiny perforated boxes. They dropped the boxes into beakers filled with fixative which they then set up on the Technicon machines. The dials were set, the clock ticked, and hour by hour, as the timer clicked into the grooves of the wheel, the arms of the Technicon lifted, dangling their clusters of dripping boxes, turned like soldiers on parade, and dropped them again into the next beaker. On they went through the fixative that preserved the cells as they had been in life, the alcohols that slowly and carefully removed the water, the xylol that replaced the alcohol and, finally, the hardened shreds of tissue lay in melted paraffin, ready for the cutting.

But first they had to be embedded in paper boats full of melted wax which, when it hardened, held them securely.

Then, in millionths of a metre, the incredibly fine edge of the microtome sliced off a ribbon of tissue, as a bacon slicer cuts pork. The technician laid the ribbons on a bowl of warm water, separated off each individual slice with her needle and guided it on to a prepared glass slide which was then laid aside to dry. That was not all. Now the process had to be reversed, the paraffin removed with xylol, the xylol with alcohol, the alcohol with water, before the pale white dots of tissue could be stained. There was no way of hurrying the process. Chemicals need time to react, and time they took, regardless of our impatience. At last the blue color of the Hematoxylin and the red of the eosin had been added in their turn and taken up by the tissues; the protective balsam and the slip cover had been placed over the sections; the slides had hardened enough to be put under the microscope.

With mounting excitement, Smith and his senior residents racked down the binocular microscopes to focus on the minute blue and red dots that lay beneath. Silently they looked, moving the slides jerkily but accurately with their fingers to view all the sections. Still silent, they swapped slides to check and recheck their findings. At last Smith straightened up and re-

moved his spectacles. He rubbed his eyes wearily. He looked along the table at the three young men who had worked with him.

"Any doubts about this?" he said.

Three heads shook slightly. There was nothing to say. They were too tired for casual chatter. He pushed the Intercom switch.

"Dr. Hallam. Smith calling."

The sound came into the living room as we sat at midnight coffee. The rasping voice jarred us out of the apathy of exhaustion.

"This is Hallam."

"George, we've just read those testicular biopsies. There's a subacute inflammation in those with the flu, as we saw before; in the convalescent ferrets there is complete absence of spermatozoa with no evidence of new formation."

I looked at Pat. "Now who should be worried?"

"I've never heard of this before in ferrets with the flu," Hallam was saying. "I'd think of mumps except that it isn't easily transmitted to the weasel tribe and this isn't like mumps clinically."

"What do you propose to do now?"

Hallam thought for a moment. "Carry on with our animal experiments; but we can't afford to

wait for the monkeys. We shall have to start working on people."

"How?"

"Get in touch with the Public Health Department and see if you can round up volunteers for testicular biopsy in convalescents from the first attack. If they don't want a biopsy maybe you can persuade them to give us a sperm count."

"You know we can't keep this hushed up if we do that. The papers are bound to get hold of it."

"I realize that," Hallam said grimly, "but they're going to know sooner or later. Maybe this will soften the blow when it does come."

"OK George, you're the boss. We can't do anything until morning. I'm going to close up shop and let everybody get some sleep."

"Good idea. Keep away from the flu if you can."

"Huh, fat chance. I've got my family anyway. It's my kids I'm worried about."

"There are times when I'm glad I'm a bachelor," Hallam replied and shut off the speaker.

"Doesn't look too good, does it?" I said.

"We'll know by tomorrow night, I hope."

"I can't figure this thing at all. An inflammation that destroys the testicular cells should give a

lot of swelling and pain. Those ferrets were frisky enough and they didn't show any signs of orchitis."

"Neither did most of the human victims," Hallam said.

"Perhaps it's only a temporary arrest in the maturation of the sperm rather than destruction of the spermatogonia themselves. That could be the explanation for the low grade inflammation and the minimal symptoms."

"You mean there might be some interference with an enzyme system?" Pat said.

"Yes. We see it in anemias where the cells don't mature properly because of a lack of some vitamin like B12. The same sort of thing could be happening here, I suppose."

"Then it might be only temporary?"

"I sincerely hope so, especially if Smith finds the same in man as he reports in the ferrets."

"I wish I could share your optimism John," the Director said, "but if this is a weapon it won't have just a temporary effect. There would be no point to that." He yawned. "Sufficient unto the day is the evil thereof, as the Good Book says. Let's go to bed."

The alarm jarred me out of deep sleep. As I groped beside the bed for the still vibrating clock, I regretfully abandoned

my dreams for the austere grey walls of my temporary room, and the dreary window view of a wet Vancouver dawn. The tide was out and the slimy green-spattered mud and rocks of the estuary looked like a surrealistic painting of a hangover. At the water's edge, a school of fishing boats angled in the mud, their tilted trolling masts reminding me of the broken antennae of some strange crayfish, stranded and dead on a fishmarket floor. And dead they were. No smoke came from their humpbacked little cabins; no fisherman climbed the slanted decks.

I wondered if the epidemic had silenced their motors, or was it just not the season for fishing. Were the lusty trollers and seiners worrying about their lost virility and gone home to test it out? The newspapers had been asked to play down their sterility stories, which had caused so much consternation yesterday, but even so it was common knowledge that those who had had involvement of the sex glands might be sterile.

I turned down the corridor to the kitchen and started the coffee dispenser. Pat was still asleep after a late night coaxing reluctant male and female ferrets into the same cage and to be friends instead of messily murdering each other. Chivalry among ferrets is not highly re-

garded, even with females in season. We wanted to see if they could produce families, not to see which one was the stronger sex. Tranquillizers are fine for the purpose but it takes a neat balance to eliminate the fight and keep the desire. Hallam was not around. He was an early riser and could probably be found watching the monkeys if I cared to go there. They had shown no symptoms as yet. Probably the incubation period was about the same as in man, and if so there had not been time for the fever to start.

I moved on again to the shower, taking it cool to clear my fuzzy head. Now there was little to do but wait; wait for the ferrets to get amorous; wait for the chattering monkeys to fall ill; wait for more biopsies of the human volunteers out there beyond the virus-proof walls of our chosen prison. I thought of the previous day, the second after our brief excursion. After breakfast we had rechecked the animals while Pat had transferred cultures, brought our records up to date and then Hallam and I sat in the living room playing cribbage while we waited for Smith's reports.

As he had predicted, the newspapers soon heard of the new investigations and the noon headlines, shown over the TV, were large and frightening. "Are Flu

Victims Sterile?" the *Daily Mail* screamed hysterically in three inch letters and went into a long discourse based only on a cautious statement, attributed to Dr. Smith, that some experimental animals, after the flu, showed a decrease in procreative powers. *The Sun* was more cautious but the tune was the same. An hour after the papers appeared, Hallam ordered all telephone lines to the Laboratory shut down and a short dictated speech, intended to calm the hysteria, was played continuously over the trunks and repeated on both radio and TV.

The mayor came to the hospital, as mad as a clucking hen whose eggs have been disturbed, as indeed they had. She cooled off considerably after Hallam spoke to her on the inside telephone, and, in cooperation with the local director of the RCMP, the head of the Metropolitan School Board, the Medical Officer of Health and various other officials summoned to the spot, agreed to form a Public Safety Committee to take immediate action if the need arose. They too, after their meeting, could only sit and wait for Smith's report.

"Why didn't you go down and talk to them sir?" I said later.

"I don't want to get the flu."

I smiled condescendingly. "Oh? I didn't think it would mean that much to you."

"It doesn't," he said levelly, "but it would to you and Pat if I brought it back up here with me."

There was nothing I could say. I have seldom felt so foolish.

Later in the day, I played a lazy game of cribbage with Hallam while Pat knitted and watched TV at the other end of the room. Deciding to have some fun, as the Chief dealt a new hand, I picked up the paper that was lying on the table.

"Say, Pat, here's a little item that should interest you," I said, and pretended to read. "Lovely woman scientist, possible Nobel prize winner, knits little things and dreams of rose-covered cottages. I always wanted at least ten children, our reporter quotes Mrs.—" I started loudly, cocking one eye over the top of the paper; but I didn't finish.

Pat got up abruptly. For an instant I thought she would throw the wool at me, needles and all.

"You stinker . . . you absolute stinker," she spat at me, and almost ran from the room.

"Lord! She must be getting stir crazy," I said, bewildered.

"John, sometimes I think you spent too many years overseas," Hallam said quietly. "You still can't imagine how a woman thinks."

That broke up the crib game. Neither of us had the heart to continue. For the first time I really began to imagine a world full of sterile people; the falling population; the frustrated family life; the emptying houses; the already empty schools.

"God, what a dreary prospect," I said aloud. "And we were worrying about overpopulation."

The Chief caught my train of thought but he just nodded. There was no answer.

An hour later the phone rang. He answered it and then turned to me with a smile. "That was a report from Smith about the ovaries of those convalescent ferrets I inoculated with the first cases of flu. They seem OK. Maybe it affects only a few females after all."

"Well, we can't go peeking into the tummies of all the ladies in Vancouver just to find out," I said.

"No, but we could try to get permission to biopsy ovaries on women who have abdominal operations in the city hospitals. Many of them have had the flu. It should tell us something."

He turned back to the telephone and in a matter of minutes Bruce Thompson had agreed to cooperate and to pass the word on to the surgical departments of the other hospitals in town.

Pat showed up to make us afternoon tea but she was clearly disturbed . . . even more so when she heard the news.

"I thought you'd have been pleased to hear about the females," I said dubiously.

"Suppose it does apply to women. What good are active ovaries to a prospective mother if all the men are sterile?" she said, scornfully.

"Well, you could always marry a Russian, when they take over the world."

"Fool," she sneered. "That probably will be years from now, and I'll be too old. For another thing, I don't want to be part of anybody's harem, even for a baby."

"Where do you get that harem stuff?" I grunted. "The Russkis aren't Moslems."

"This isn't your good day, John," Hallam interrupted. "It is obvious that there will be a tremendous demand for fertile males, and I can even visualise the female voters of this country and the United States demanding a quota for Russian immigrants to this continent. Just how the disgruntled American males would react I don't know. It could lead to a very nasty situation, and maybe to that retaliatory war the Reds are trying to avoid. Of course, it could also mean civil war . . . a war between the sexes . . . with our

males trying to revenge themselves on the Russians and our more realistic females trying to prevent it so they could use the Slavs to rebuild the nation . . . on Communist terms of course."

"Boy, this is really science fiction gone wild," I said. "Seems as if I picked the wrong place to live, unless I can avoid the flu."

Pat didn't even look at me after that crack. The day dragged on. Radio reports came every few minutes and the interruptions of the TV programs to announce the spread of the epidemics were almost as frequent as the commercials.

By now the Chinese had admitted that thousands were dying in the big cities of Peiping and Shanghai, while panic had disrupted communications to the interior. The first frightened reports were in from India, where efforts to block the Himalayan passes were too late and refugees had spread the deadly "measlepox", as it was now called, to Assam and Upper Bengal. There were rumors of flu in Texas and the Rangers had redoubled their efforts to keep the Mexican "wetbacks" from sneaking across the Rio Grande. All trans-Pacific air travel was cancelled.

About that time, the Intercom lit up again.

"Are you there, George?" It was Dr. Smith.

"Yes. What have you found?"

"We have the reports on thirty sperm counts taken today from professional personnel in this hospital. They are all negative."

"You mean normal, I hope."

"I mean negative for sperm. Three are from doctors who are just over the fever. They show a few abnormal forms in the secretion but no live ones. All the others are several days convalescent and show nothing but epithelial cells, a few polymorphs and more lymphocytes."

"What about the biopsies?"

"We have half a dozen that we rushed through. The slides aren't the best but it's perfectly obvious that something serious is happening. The spermatogonia are degenerating. The Sertoli cells seem all right and the interstitial cells are apparently untouched."

"What's he mean?" Pat whispered to me.

"He means the cells that form the sperm are dying but the ones that give a man his masculinity are intact."

"How many more biopsies have you?" said the Chief.

"About fifty."

"That's not enough. We're going to need at least several hundred. There must be absolutely no doubt in anyone's mind that this is a national emergency when we present the facts to the Government. I know that the statisticians can prove that this

present number is highly significant but a politician is much more impressed with a lot of people than with a small group."

Joe Armstrong came on the line. "George, I'm convinced now that this virus does have serious after-effects. Let me talk to the other hospitals. We can get enough specimens in another twenty-four hours to prove your point." He paused, obviously considering his words. "I can't go along with this secret weapon idea yet . . . I don't think there's enough evidence. What do you say?"

"There isn't any evidence for the weapon theory," Hallam admitted, "but Gordon is well on the way to showing that the structure of the virus is synthetic. What I mean is that it looks more like a crazy mixture of mumps and flu than like any of the natural viruses or their known mutations."

"I still don't think we'd better let that story get out. There'll be enough hell raised as it is."

"All right . . . just as long as we stop this thing."

"How do you suggest we go about it?"

"Joe, there isn't time to search for a way of preventing it by vaccines. It will take months to manufacture enough, even if we succeed. Our only hope is to alert the civil authorities to its after-effects and get a strict quaran-

tine set up. Frankly, I think it's almost hopeless by now. The Eastern Seaboard started reporting cases just a short time ago. Agents must be working in seaport cities like Montreal, New York, Charleston and all the others. I'm afraid we're licked except for isolated communities in the far north or in some rural areas which can be ringed around with guards to prevent contamination. Every male we can save must be protected either until the disease dies out or we can devise a vaccine."

"Do you have any other ideas?"

"You could get a Blood Donor Program going to collect blood from those who have had the flu. We might be able to separate out antibodies from convalescent serum strong enough to give a temporary protection to those who haven't had the disease . . . and then hope for a vaccine."

"OK, George," said the Intercom. "Why don't you three stay in there and work on the vaccine since you haven't had the flu yet. I'll alert the Minister of Health. The Public Safety Committee is already back in session."

"Do that, Joe," Hallam said, "and tell Harry Cope and Polly Cripps to stay on call. We're going to need help with the electron pictures and other procedures."

So that day had gone by and

here was another one, a day of coffee drinking and waiting, a day of writing reports, of listening to the mounting clamor in the outside world. In the Vancouver area, schools were closed at noon. The Public Safety Committee, impressed sufficiently by yesterday's preliminary reports, barred all public meetings and ordered theatres, bars and dance halls to close. Families not yet affected by the flu were urged to stock up on supplies and then remain home. Quarantine regulations were put in effect to protect them. This reversal of the usual procedure in which those who had not had the disease were kept isolated, was explained as necessary since the majority of the people had already been victims and therefore were unsalvageable. By nightfall the day's biopsy reports were coming in from all the city hospitals. There was no doubt. Every male who had had the flu was sterile!

The extras hit the streets an hour after dark. The Lieutenant Governor came on the TV and radio to declare a state of emergency. Curfew was to be enforced, beginning the next night, for all except essential medical services and food supply. At least the country was aroused. All trace of former unconcern had disappeared.

I went to bed early. There was nothing more I could do.

AT midnight I awoke suddenly. My mind was alert and bright, with that extreme clarity which comes sometimes after working hard on a problem. The moon was pouring a pale light over the window sill. It bathed my face in its lambent glow as I lay there for a moment, wondering what chemical time bomb had exploded in my brain. I looked at my watch. It was midnight.

I got up and looked out. Spreading up from the delta, curling over the fishing fleet and the canneries, flowing between the houses and filling the streets as the incoming tide runs in the channels and covers the stones of a rocky shore, the fog filled the hollows and smoothed over the humps of the city, until at last all but the higher tops of the buildings sank under the woolly wave.

The sense of urgent discovery had faded from my mind. There was something I had to remember, I knew, something that my mind had worked out as I slept, but, though I searched for a clue, it would not come. Idly, in my wakefulness, I watched the fishing fleet as it slowly sank in the mist, until at last even the tall masts were gone. A bad night to be out fishing, I thought, but a good night for smugglers or any-

body who didn't want to be seen.

"By God . . . that's it! That must be it!"

The key had turned. The clue had been found. The sudden excitement of discovery set the pulse pounding in my ears until I thought it must be audible, like the ticking of an alarm clock. I opened the closet and rummaged in my suitcase for the sweater and light windbreaker and my old, cut-down paratrooper boots that I had brought from my apartment. It would be cold where I wanted to go, and go I must, virus or no virus.

I had just finished blousing my pants over my socks, GI style, and was moving towards the door when it opened, and Pat, holding a book in one hand, yawned in my face.

"What's all the noise about?" she said, standing there sleepily in her rumpled pajamas. The yawn froze in amazement and then snapped shut as her eyes travelled over me.

"Well, I declare!" she said. "Where on earth are you going?"

"I haven't time to explain," I said in a low voice, afraid of waking Hallam.

She suspected as much. "Have you told the Chief?"

"No. I don't want to tell him just now. I've got a hunch on this virus warfare idea of his. It's only a wild guess and I've got to go out to follow it up. He might

not want me to take the risk of catching flu."

"I don't want you to either."

"I'm sorry, Honey, but I've got to do it. There's too much riding on this thing to let our personal affairs interfere."

"But you said yourself it's only a wild guess. Why risk our whole future on that?"

"Look, I'm going to keep away from people as much as possible, but I'm going out just the same. This may be the last chance I'll ever get to see if the boss is right."

"Then I'm going with you."

"Oh, hell! This is no job for a woman."

"It's no job for one man! Either I go or I wake up Dr. Hallam."

"All right," I said resignedly. "On your own head be it."

We trotted down the stairs and over to the parking lot. The Ferguson started easily and picked up speed quickly as the hydraulic drive fed power to the four wheels. I watched the center strip and wished for the radar control that was now being installed on the turnpikes south of the border. We didn't have it here yet so I had to rely on what little my eyes and ears revealed as we tunneled through the fog. Over the Burrard Bridge it seemed thinner and we made better time. We dived back into the depths

along Georgia and I used the curb as a guide as we curved through Stanley Park and over the Lion's Gate bridge. The tunnel would have been quicker but I wanted to see the extent of the fog. At the center of the bridge it was too deep to tell but that in itself was encouraging. We swung around the cloverleaf and on to the old West Van. road.

"Where are we going? Horse-shoe Bay?" Pat said quietly, as she drew on a cigarette. It was the first time she had spoken since we started. I liked that about her; she could wait better than any other woman I knew.

"Yes, to the wharf."

"I'd like to know why, if you don't mind telling me."

"I don't mind at all. You should know," I said, and paused to reflect. "Light me a cigarette and I'll give you the whole picture as I see it."

I was lining up the facts in my mind as she put the burning cigarette to my lips.

"The first thing we have to do," I began, "is to assume that Hallam is right. If he is, if this is biological warfare, then how did it get started? There are several possible ways. The virus could be brought in by agents; it could be sprayed, or floated, or in some fashion sent ashore from ships or submarines; or it could be seeded from the air, either by aircraft or by something like

those balloons the Japanese sent over on the air currents during World War II. Now, it started right in the city of Vancouver, so it seems to me that would rule out some of these possibilities.

"The balloon theory for one," Pat murmured.

"Right. Balloons drift as they please and anyway none has been reported. The same is true of airborne mists or floating devices. They would hardly have such a localized effect to begin with; that seems to rule out air or sea propagation, at least in the general sense."

"You mean except for agents coming by air or sea?"

"Exactly! Let's look at the air entry possibilities. The Russian air lines are now running regular over-the-pole flights that land here, but our customs people are quite strict and our mechanics help to service their planes. I doubt if they'd take a chance on bringing in stuff that way."

"What about freighters docking here or in New Westminster?"

"A very good possibility, but here too they have to evade customs and harbor police, and with the occasional seaman jumping ship to claim political asylum, the RCMP must keep a close watch on the movements of the crew. I think we have to rule this out."

"Then the only other way is

agents coming overland; but that doesn't make sense," she objected. "Why would they come all the way out west, or if they sneaked in from Mexico, why start the epidemic up here in the north where we are so much stricter?"

"I don't believe these agents came by land, for the reasons you've mentioned. I believe they come in by sea."

"You mean by submarine?"

"No, although that would seem likely at first thought. There have been too many reports, in the last few years, of unidentified submarines off the coast. The Royal Canadian Navy and the United States Coastguard and Navy are watching all the time. It would be too big a risk." I stopped for emphasis. "You must remember Dr. Hallam's second postulate. The first was that this is a war. The second, that it is a hidden war. The presence of submarines along the coast would almost certainly cause suspicion . . . and that must not be, if the war is to succeed."

"Then I give up, John. How else could it be done?"

"By deep sea fishing boats."

"You mean Russian ships?"

"No, that would be obvious."

"Gracious, John, you are being obscure," she complained. "Then they must be communist Chinese."

"Wrong again! Still too obvi-

ous; and with the measlespox raising Hell in China we wouldn't let any Chinese boat near the coast right now."

"For Goodness sake, stop being so mysterious. You sound like a murder mystery where the hero turns out to be the murderer."

"Not that either," I smiled and patted her silky knee.

She laid her head on my shoulder and sighed. "Sometimes, darling, I just give up on you. I'd be real annoyed if you weren't so sweet."

"All right, I'll tell you. It's Japanese fishing boats."

She lifted her head again to look at me in amazement. "Japanese! You mean the Japs are helping the Russians?"

"No, I mean the Russians are using Japs."

"Dear Lord," she murmured, "the man's gone nuts." She turned to face me. "And you were accusing the Chief of being fantastic."

"The whole thing is fantastic, but if we start by believing Dr. Hallam's assumption, incredible though it may seem, then we arrive, by elimination, at the solution I've just stated."

"You may have arrived," she said. "I haven't even started."

I butted my cigarette and threw it out. "Here's how it works," I said.

"We always think of the Russians as coming from Europe and of Russian agents approaching from the Atlantic side. That was largely the case until World War II, at least until the end of that war, when the Soviets moved out of Siberia and took over some of the old Japanese territory in Manchuria. Since then, as you probably know, they've really developed their naval bases on the North Pacific. Also, on the civilian side, they have developed a strong interest in the fisheries of the Aleutian area and they take part in the international agreements that control the salmon, halibut and other fishing in the North Pacific, as well as the fur seal trade. The result is that boats of all four nations, Soviet, Japanese, Canadian and American, plus some others, move freely about the waters of the North Pacific and along the shores of Alaska and British Columbia. As long as they abide by the Fisheries Commission regulations and stay out of territorial waters, they are free to move about pretty much as they please. That means that a fishing boat, or a floating cannery, could be out there right now, ostensibly looking for salmon, or tuna, or whatever is in season, and nobody would pay much attention to it among all the others. This coast is still wild and relatively unpopulated. I be-

lieve such a ship could creep in at night, close to shore, especially in a fog. The radar screens would have a hard time picking it out among these islands, especially if it had anti-radar devices. It would be a relatively easy matter to put a few men ashore from a fast motor boat almost anywhere around here."

"Where do the Japs come in?"

"That's the beauty of the whole idea. When I was in Hokkaido with the Japanese Defense Force, during the Korean War, I used to visit their defense positions in sight of the Kurile Islands and Sakhalin . . . the Japs called it Karafuto. The officers, many of whom had served in the Imperial Japanese Army, used to tell me about doing garrison duty there on Sakhalin before the Second World War, when the southern half was Japanese and the northern half Russian. They told me that many Japanese fishermen stayed behind when the islands were evacuated in 1945. What could be easier than to equip a ship and man it with an experienced communist Japanese crew?"

"You mean that ship that almost ran us down?"

"Yes, I do. That ship was flying the Japanese flag. The crew talked Japanese . . . but the man I saw looking over the stern at me was a Slav. Even if the ship got picked up they could

claim Japanese origin and would be accused only of poaching on restricted fishing grounds, which happens all the time. Any Slavs aboard could pass as White Russians, residents of Japan, with forged papers."

"I remember that white man too," Pat said. "I got a glimpse of him just before the stern wash knocked me flat." She paused. "But surely you don't expect to go out and find that ship tonight?"

"No, I don't," I said thoughtfully. "The epidemic has been moving slowly inland and south. Dr. Hallam suggested that agents must have started it in the Interior of B.C., because of its explosive character. That makes sense, because they would want to get it started across the mountain barriers and the sparsely settled areas, so that the whole of North America would be affected: but they would still have to come back to the coast for supplies, and they probably arrange to do that when the satellite long range forecast says fog conditions are likely. Then, too, this is the last night before the curfew and they can still move freely. However, I'm afraid they are almost finished in this part of the world and will probably move on. I hope to see some evidence of them out at Horseshoe Bay. It's a wild chance," I concluded lame-

ly, "like trying to throw boxcars in a crap game; but what else can I do?"

"What are boxcars?" she said.

"Double sixes . . . and an outside chance."

"It isn't even an outside chance," she argued. "Suppose you guess right and this is a good night for it, what makes you think out of all this long coastline they would pick Horseshoe Bay? I'd think a lonelier spot more likely. Why not between here and Squamish on the new highway, or farther south or north?"

"In the far north there are few roads. Closer to Vancouver the coast road has ferry crossings in it that would be time consuming and also, on a small ferry, strangers might be noticed more, coming and going. The same applies to the Vancouver-Squamish highway. A car parked along that road might attract attention and the little hamlets where they could land are too small for them to pass unnoticed. South of Horseshoe Bay are the busy shipping lanes and then the United States border country, so, to me, Horseshoe Bay seems the best bet. It's big enough that people come and go in their boats, even this late in the year, and don't attract too much attention. Cars are often left parked in the lots while the owners go fishing up the coast or

visit their cottages for a weekend. Also, the floating docks for the small boats are beside the main jetty where we can see whoever passes, while we sit in our parked car. And there are a few lights, enough that we can see them without drawing attention to ourselves."

"You have it figured, don't you?" Pat yawned, but the yawn was more excitement than boredom.

"Yeah," I muttered, "but who knows how a communist thinks?"

It was about one-fifteen when we rode down the steep incline to the Bay and, after circling about the little beach park to look around, pulled in not far from the restaurant where the first dock light illuminated a small circle in the fog. We were far enough away under the trees to be safe, and, with the windows up, in that light, it isn't easy to see into a Ferguson anyway.

"Better not smoke," I said. "We can pretend we are here on a necking party."

"No pretense needed," Pat chuckled, and gave me a hug that nearly pulled off my right ear.

A heavy dig in the ribs jerked open my eyes and I came back out of my doze in a hurry.

"I hear somebody coming," Pat was whispering.

There had been a few late comers pass by, either to or from the dock, but all of them were obviously families, or couples, or fishermen. At any rate, nobody like our thickset friend had appeared in the hour past. Cuddling up to Pat's sweet-scented warmth, I'd fallen asleep in a matter of seconds. I could hear footsteps now, of several people, and shortly three men passed close by the car, going towards the water. One was tall and thin. He was wearing the heavy Squamish Indian sweater, made of unbleached wool, so popular with fishermen, a battered fedora and heavy work pants. As he passed he was speaking English with a slight European accent. The second man, of average height, wore an old dark windbreaker and slacks. His face, like that of the first man, was shaded by the hat he wore, a long peaked baseball cap. The third man was short but very strong looking. His head was bare, and, as they passed under the light, I saw a crop of close-cut, light-colored hair, and that unmistakable heavily boned face that had come so close to me out on the Straits. All three were carrying rucksacks over their shoulders. It was a clever disguise. They looked like campers, or perhaps transient workers, on the move from one lumber camp to another. Even their accents would

be no hindrance with the country full of D.P.'s since the war.

"That's the man, John, the short one." Pat was pulling feverishly at my sleeve. "It's the same guy, I'm positive."

My heart was settling down after its first great leap, but my throat still felt like the ostrich who swallowed the grapefruit. They had gone on past the shore lamp now, and were almost lost in the darkness and fog of the main pier. I opened the door quietly and stepped out.

Pat grabbed at me. "John, don't be crazy! You can't handle three men alone."

"I don't intend to," I whispered, "but I've got to stop them somehow. We may never get another chance. They must be about through around here."

I broke loose and moved down the gravel road on to the wooden platform. I hadn't the faintest idea of what I was going to do. There wouldn't be time to call the police, and, even if I did, it might not do much good. Nobody outside of the Civic Hospital knew about the biological warfare theory. If I got involved in an argument I might end up in the police station, probably get the flu, and not be able to prove a thing. No, I'd have to handle this myself, play it strictly by ear and wait for the breaks.

The men were busy now over the canvas cover and mooring

ropes of a fast-looking pleasure cruiser tied alongside the big jetty, with its bow to the open sea. There were hundreds like it on these waters and it would attract little attention. The short man was directing operations from the dock and his speech was perfect, colloquial American, from somewhere in the Northern United States or Canada.

"This one is probably the leader," I thought. "With an accent like that he could cross the border and never be noticed as he moved about the whole Pacific Northwest."

The fog seemed to be lifting in spots. It was getting lighter and a moon halo could be seen through the drifting clouds of mist. The three men were in a hurry. They didn't notice me until I was opposite their boat.

"I'd like to talk to you," I said to yellow-hair, who was bending over a bollard.

He started and straightened up quickly. I saw his head lift a little more as he got a good look at me.

"I'm busy; what do you want?" he grunted.

"I want something done about the damage to my boat," I said loudly.

The other two had stopped to watch me. At a nod from the leader, the second man went on getting the boat ready. The tall man stepped from the bow on to

the main dock so he now stood a little behind yellow-hair and off towards the middle of the dock. I still had a clear line of retreat, but I didn't care for the setup; it isn't good tactics to be out-flanked.

"I don't know what you are talking about." He had made the obvious answer.

"You know damn well," I said hotly. "You were on that Jap fishing boat that ran me down in the Straits of Georgia."

"You are mistaken. I know nothing about it." He turned away from me to get back to the mooring rope. I grabbed at his left arm. I think he was expecting it. He spun around with my pull, his right hand coming up and over, fast, for my head. I let go his arm and swayed to the right, hoping he wouldn't be too quick with a left hook. As his fist went by my neck I stepped across in front of him with my right foot, swung my backside hard into him and whipped downwards, using his right coat sleeve as a lever. His forward rush lifted him and he went over my back, high and fast, in the Judo version of the flying mare. I heard the gasp and the thud as his breath was driven out of him by the fall. Still crouching, I spun around, and, as I had hoped, the Russian bean pole was coming for me, hands out to shove me over the edge. It was

simple. As he came in I fell back, gripping his arms, while my feet found his belly. He rocked over like a seesaw and I shoved up strongly with my legs to flip him. The Japs had clobbered me with that trick so often in the Judo classes that I had it down pat. This fellow really sailed. I heard his feet hit the water, but the splash was drowned out by the harsh aa . . . h of his scream when the small of his back smashed down on the edge of the dock.

"One down, two to go," I was thinking as I scrambled to my feet; but I had slowed down since the war. Too late, I saw that familiar thick shape above me, silhouetted against the clearing sky. In his upraised hand there was something round and black. Once again I glimpsed that dull red sparkle of the ring in the now bright moon.

"This proves it," I thought, so I lunged forward desperately, tackling him at the knees. Then the side of my head split and I dropped.

Dimly I heard a high-pitched screaming. I wasn't out cold; I could see but I couldn't seem to get up enough steam to move.

"That damn Russian surely is noisy," I thought dully. I looked up from my knees. Yellow-hair was on his feet again and he and the second man were scrabbling

frantically over the side of the boat, dragging the tall man by the shoulders. I heard him groan, "Nyet, nyet!" as they tumbled him into the cockpit, limp as a pithed frog, and started the motor. I suppose the shock of the broken back had cut through the long indoctrination in the English language he must have had, for that was the first and last word of Russian I heard. The screaming kept up and then I realized it wasn't the injured man, but Pat, who had followed me down to the water. Being a really smart girl, she hadn't tried any heroics and had stayed too far from the fight to be caught, so, realizing that they couldn't dispose of the evidence, namely me, without a witness, the Russkis abandoned all pretense in a desperate scramble for safety in the fog that still blocked the harbor entrance. The cruiser foamed away from the dock with a deep roar, rocking the boats down the line of buoys.

The moment they were safely away, Pat was down on the planks, running wildly towards me. As she came close, she stubbed her foot on that same black cylinder that had downed me, and sent it rolling. She reached down and began tugging at my arms to lift me.

"Wait! Where's that thing? It may be evidence," I cried out, my head clearing fast.

"Oh come on! We must get out of here. Quick!" Pat was pulling at me as she spoke. "We can't afford to stay here and explain this to the police. They'd hold us for questioning and we mustn't risk any more exposure to the virus."

"The hell with the virus," I moaned as I stumbled along the deck, looking for the black cylinder. "Get the car started. I'm coming."

She turned and ran and, a moment later, with the cylinder in my pocket, I followed her. The Ferguson was already roaring as I jumped in beside Pat. She stamped on the accelerator and we went out of there and up the hill in a tire-ripping start that almost broke my neck. The engine has never been the same since.

The ride back was a painful haze. Every bump accentuated the throbbing in my head. Pat, grimly intent on getting well away from the area, held the pedal down as hard as she dared and the Ferguson whipped around the curves, its independently driven wheels screeching and scraping against the asphalt like the claws of a frightened dog on a waxed floor. The fog was gone except for little patches drifting down the gullies or hanging in dead air pockets between the hills. We reached a more brightly lit area and she

slowed down. There was no pursuit.

We went back up the stairs of the Lab and into the showers. I felt safe again like a wounded rabbit diving into its burrow. She helped me strip and, kneeling beside me, held me in her arms as I sat under the spray. The soft fullness of her breasts and arms, dripping with the cool water, made a nest of peace and comfort. For a long minute I let go and retreated back to childhood and the contentment of a mother's arms.

"My poor darling," she crooned, and rocked me gently, her slender hands smoothing my hair and caressing my face.

Suddenly I struggled to my feet and, slopping water over the floor, lurched back into the ante-room.

"The cylinder! I forgot the cylinder," I groaned, and flung open the door of the supersonic cabinet. The warning buzzer stopped. I fumbled agitatedly in the pocket of my windbreaker and drew out the thing that had hit me. For the first time I really looked at it. It was like an old-fashioned army aerosol bomb with a trigger mechanism on one end. I slammed shut the cabinet; the buzzer and warning light went on again.

Pat stood beside me anxiously, dripping heedlessly on the floor

rug. "What was it, darling?"

"This thing," I held it out to show her. "There might be virus in it and I put it in the super-sonic cabinet, like a damn fool."

"What will that do to it?"

"I don't know for sure. Ultra-sound kills some organisms. Maybe it will be all right. It wasn't in there long." My stomach began to churn and I leaned on her weakly. "Oh, my head," I moaned. "I feel sick."

She put her arm around me and led me back to the showers. I sat down again, dropping under the spray, until the nausea had passed. Then I raised my head. "We've got to get this aerosol bomb to the culture room and start making tests. Hand me the soap darling."

Silently she reached it to me. I soaped the cylinder carefully, trying to sterilize it at least in part; then, after washing myself, I rinsed it off thoroughly. A few minutes later, in clean whites, we entered the living room. I slumped into a chair, elbows on the dining table, my head in my hands. Quietly efficient, Pat handed me two aspirin and codeine tablets for my pain and dialled strong coffee into a cup. She put in cream and sugar and pushed it over to me.

Hallam came in, in his pajamas. A light sleeper, he must have been disturbed by my heavy-footed entrance. He looked

at us and his eyes puckered as he tried to see clearly without his glasses.

"John's been hurt, sir, but not badly," Pat said swiftly. "He'll tell you all about it in a minute. Let him recover a bit."

Without a word the Chief went to his room and came back. He had added a gown and glasses to his pajamas. He walked over to me and I showed him the goose egg on my head. He checked it and then looked at my eyes. Satisfied, he said his first words.

"Were you knocked out?"

"No sir, just dizzy. I think I'll be all right soon."

"Well, you know what to do. Let me know if you need help."

"I will."

He took the coffee Pat handed him and sat down opposite me.

"The bomb, Pat," I said. "You'd better take it now and get some cultures going." I took it out of my pocket and handed it to her. She reached for it and I thought she had it and let go. She fumbled.

"Watch out!" I shouted in alarm, and grabbed for it.

Either I startled her and she triggered it or my own hand struck the release. It doesn't matter now. A thin white stream of gas hissed out of the end and hit me squarely in the mouth. Pat stood there, rigid, the cursed thing still in her hands, and



slowly her lips began to quiver and a big tear formed in the corner of her right eye.

"John . . . Oh, God! . . . the virus!"

"I'm afraid it is," I said quietly. I felt let down; finished; the same way I had when I watched the wounded die in the Aid Station and I couldn't help. Only this time I was the patient. Oh, I wasn't going to die, or even be very sick, but no man likes to think that he can never have a son to follow him, and I knew, beyond doubt, that in another week I'd be completely sterile.

I'd never seen Pat cry before and it brought me out of my daze. I went to her and took her

shoulders in my hands and there, right in front of the Chief I told her, "Darling, I can't kiss you now, but I want you to know I love you and this will make no difference at all. It wasn't your fault."

She couldn't speak. I looked at Hallam. He sat there staring at the bomb in her hands.

"I think I can guess what has happened," he said, "but how?"

Quickly Pat sketched the story while I washed my face as well as I could. She finished and he stared into space. A few seconds later he put his big hands on the table and hunched to his feet.

"We still have to analyze the contents of this thing to see what

kind of virus is in it . . . if there is. We might as well get started on the preliminaries. No sense in isolating ourselves any more. It's likely we'll all get the disease now." He looked at Pat's tear-stained face and said kindly, "Why don't you two go home for a rest before the day staff gets here. I can handle the beginning of this job myself."

CHAPTER 6

IT wasn't far to Pat's apartment. The APC's were working and the ache in my head had gone, replaced by a soreness over the actual bruise. I drove slowly, reluctant to part with her now, to lose the sense of closeness we shared. Elation over our night's work, mixed with sadness for the future, had combined to bring us together more than we had ever been before. She said nothing, but her nearness to me and the hand laid gently on my leg were evidence enough of her feelings. At the stoplights I glanced at her, trying to gauge her thoughts. Her gaze was fixed on some nebulous point beyond the windshield; her face was still, frozen in its expression, almost as if she were a wax model.

Burrard bridge went by and I turned to the left, down a side street. The car rolled to a stop in front of a large modern apartment building. I shut off the en-

gine, got out, and opened the car door for her. We walked up the steps together. She reached in her bag for the key.

"Don't bother coming back to the lab today," I said, turning to go. "Hallam can take care of it this morning and I'll go back later this afternoon and give him a hand."

She looked up in surprise. "You're having breakfast with me." It was not a question but a statement of fact.

"You're too tired, baby," I protested, but feebly. I hated cooking for myself and she knew it.

"I am a little tired," she admitted as she opened the door, "but bacon and eggs will pep us up. I want to talk to you."

Pat's apartment, a bachelor suite on the fourth floor, consisted of a bed-sitting room partly divided by an ornamental screen, a kitchenette and bathroom. Off the sitting room area, a tiny balcony with french doors overlooked English Bay. I strolled over to see the view. The fog was still hanging in patches to the shoreline but above the cottony masses it was a beautiful day and the mountains across Howe Sound sparkled icy white and blue in the distance. I felt a lift looking at them. Pat had removed her raincoat and hat. Now she turned from putting them in the closet to look critically at me, hands on her hips.

"Go take a shower and change clothes while I'm cooking breakfast," she said. "You look scruffy after that judo exhibition. Besides, I want to kiss you and you need a shave and you're covered with virus."

I came back, more comfortable in a clean shirt and slacks I'd left there on a previous occasion. She was sitting at the small dining table, looking over the morning paper. As I watched her read, concentrating on the epidemic story, I examined that kissable mouth, the strong straight nose, the thoughtful eyes. She wasn't the most beautiful woman I'd known but she was loyal, intelligent and good, clear through. Somewhere deep inside, a small ache began and grew. I hadn't thought much about marriage as we had agreed to let our friendship ripen into something better, if it wanted to. Now, as I watched her there, waiting for breakfast with me, I knew I was tired of our present relationship. It wasn't enough that she was my friend and, on one recent occasion, my mistress. I wanted her for a wife.

I was wondering how a childless marriage would work out when she looked up.

"Breakfast's ready any time you are," she said softly.

I went to her and raised her up. Then, slowly, without passion, I kissed her full on the lips.

Her eyes were wide open and once more I saw the tears coming.

"John, don't . . . not now!" she whispered and turned away to start rattling around with the plates and the eggs and bacon.

We sat near the window over our coffee and cigarettes, looking out at the blue sky and scudding white clouds. The wind had dissipated the water vapor so that no wisp of fog was left. The little waves in the bay tumbled and sparkled in the light and a small tug burst through them importantly, steaming along like a short fat woman heading for the bargain counter.

"It's so beautiful, so peaceful out there," Pat murmured. "I can't believe we're in the middle of the greatest war in history."

"Well, if the number of casualties is any indication, it makes even atomic warfare look mild by comparison."

We had heard the news as we ate. The situation in Asia was rapidly approaching the catastrophic. In fact it was probably beyond redemption already in China, since the normal news channels had collapsed. All India was in a state of panic with hordes of people fleeing in any direction that seemed to promise escape. Southeast Asia was in an uproar, with riots and revolutions as reports of the inexorable advance of the measlespox

filtered down to the people. In Africa, Egypt was already in the grip of the fatal disease. It was, as Pat said, not at all surprising, since Soviet technicians and supplies had been the mainstay of the country ever since the United Arab Republic was formed. The great desert barriers of Soudan and French Africa were holding temporarily, but it was merely a question of time before some poor devil, his fevered brain seeking escape, blundered to the forests of the Congo or the Cameroons, to the high country of Ethiopia and Kenya, and set fire to the rest of the continent. Only South America and Australasia were still normal, if one could call normal the state of total mobilization and preparedness that was being ordered in practically every land which had sea or air contacts with the rest of the world.

In North America there was no measles. All the major cities of the east were reporting hundreds of thousands of cases of flu and it was rapidly spreading to the southern and inland areas.

"They must have had agents on the East Coast too!" Pat said as she listened to the announcer enumerating the cities and the estimated numbers of sick.

"I imagine so . . . a lot of them," I said, "Some of the

spread must be due to natural infection too. There wouldn't be enough agents, and they couldn't carry enough virus to do all this."

"How do you think they got started over there?" Pat said. "They don't have the handy excuse of a fishing fleet, do they?"

"No, they don't. I imagine they use submarines especially equipped with tanks full of virus solution, or perhaps crystals, which could be mixed and loaded into aerosol bombs as required."

"But you said submarines might make our government suspicious."

"I did, but that was when the epidemic first started out here. It has been going on for some time now, in the west, and if you'll remember the broadcast, there were cases reported in Detroit, Chicago and St. Louis about the same time as in the coastal cities of the east. People will naturally think it has spread overland by air travel or train and won't be too concerned with what shipping is out in the Atlantic. The Red Fleet has been maneuvering frequently off Newfoundland for the past six or seven years so it shouldn't cause too much comment."

"If only they knew what was really happening to them!"

"I imagine the U.S. and Canadian governments do have our

reports by now but they'll have to watch how the news is released. If they're not careful there could be a panic, with people evacuating the cities and spreading the disease. It takes time to organize police and military units for quarantine guards."

"How bad is it likely to be?" she asked.

"That's hard to say. The 1918 flu killed twenty million people and attacked about fifty times that number. Since then, ordinary flu epidemics have been reported with up to fifty percent of the people involved. The Asian flu of 1957 affected up to seventy-five percent in some areas. But this stuff isn't pure flu and so there may be absolutely no immunity. Probably the only thing that will prevent people from getting it is not to be near someone else who has it. In the old days that was possible, but with the population we have now, and the rapid communication between towns, it is much easier to spread an epidemic than it was fifty years ago. My guess is that eighty or ninety percent of the population will get it."

"John," Pat said thoughtfully, "How long is it likely to be before you start having symptoms?"

"You mean all of us, don't you?" I said. "After all, that

spray must have splashed a bit and both you and the Chief may have got enough to infect you."

"Well, yes, if you put it that way."

"Oh, about four days," I guessed, "or, perhaps a day more or less. We aren't quite sure of the incubation period yet, and there's always a chance of a mutation with a shorter period if a synthetic virus is liable. We don't know that either."

"It's practically certain you'll be sterile, isn't it?"

"I'm afraid so," I said ruefully.

"What about convalescent serum, wouldn't it help?" she asked hopefully.

"If I got a big enough and strong enough dose, it might. There isn't any ready yet. I asked Hallam just before we left this morning. If it isn't injected early it may modify the disease but probably wouldn't prevent it completely. I might still be sterile. It doesn't always work anyway."

"What about me?"

"Last night, before I went to bed, Dr. Hallam got a report that very few women had shown symptoms of sex gland involvement. The biopsies taken by Bruce Thompson from the ovaries of women who have had the flu showed only minor changes that Smith could detect. That isn't absolute proof that every-

thing is all right, of course. It will take time to find that out."

"What about miscarriages in infected women," she persisted.

"They checked that out too. There have been occasional cases, but no more than you are likely to see with any heavy fever. That ferret may have been an exception. Perhaps it's a peculiarity of the ferret's reaction to the virus. It may prove to be a rare complication in people. Of course we don't know yet if the children of infected mothers will be born deformed in any way, as they often are in German measles. This virus may have no such power."

"Well, that's a chance I'll have to take," she said.

"What do you mean?" I queried. "You'll likely have the flu by next week and you don't even know if you're pregnant yet. You couldn't possibly tell so soon."

"I know that—and that's the reason I wanted to talk to you."

"You and I have been letting things ride along for some time now. I've enjoyed it and I have no regrets. But it's time to stop; to make up our minds." She looked straight at me. "Do you love me enough to marry me?"

I got up and went to her. I put my arms around her and this time my kiss was not quiet.

"Silly question," I whispered against her cheek. "I was getting tired of being just the boy

friend. We'll go and get the license right now. We can get married as soon as the three day waiting period is over."

She looked up at me and said, "You wait here. I'll be ready in a minute."

I sat down and lit another cigarette. Three puffs later I heard her speak behind me.

"I'm ready, John."

I looked around and came to my feet with a gasp. Then I took her into my arms.

"Pat . . . my Pat! God, but you're lovely!" I smoothed back her hair and tilted her face to see her. "Darling, why are you doing this?"

"This is our wedding day, John. If we wait for a legal marriage it will be too late . . . you'll probably have the flu. I slept with you on the boat because I wanted your child and I was afraid of the flu. Now I'm sure you'll get it. This is our last chance." She moved away from me and took my hand.

Later, as we lay quietly together, I said teasingly, "What's it going to be? Boy or girl?"

"I really don't care. I only hope he'll have a few playmates to keep him company. An only child in a family is bad enough. I don't want him to be lonely."

I pulled her over to me and held her tightly. Her tears were warm against my neck.

(To be continued)

*Another episode in the saga
of Moderan—with perhaps a
hint of things to come.*

THE WARNING

By DAVID R. BUNCH

THEY were out there, all right. Though we hide in our inmost rooms, our heads under beds, our thoughts turned to trees popping up and tin robins singing and spring coming through the yard-holes, they were out there, all right. Maybe they had always been there. Times when we paused in our wars, we would see their airborne displays, see their threats shooting, the dazzling sky-borne crosses, the winged halos, and know they were massing their armor . . . under banners . . . oh, the soft-symbol banners . . .

From the land of the threats into the Stronghold country an old man came back one spring day. Walking slowly he came, plop-plip-plap over the homeless plastic, working his hinges and braces, for he was a Moderan man. The flesh-strips he

had kept in his face had grown him a gray long beard and with his arms jerking in that hitch way of his walk I thought of a man scything; I thought of Father Time of the Old Days. But there is no Father Time in Moderan. With our flesh-strips few and played down and new-metal alloy "replacements" comprising the bulk of our bodily splendor we are timeless in Moderan, designed for forever!

It was in a period of truces that the man with the beard came back. He walked into April and no guns fired. The walking doll-bombs rode lightly in their launch slings, the missiles poised on their pads, and the White Witch rockets, with no one handling the big orange switch in his War Room to ON, hung silent as painted death. Not many remembered him. He had once been a

Stronghold master, long ago, but some minor difference or other with the Authorities had caused his Stronghold to be blasted down as a cleared place for trees, and he had been given the hard choice between banishment and what would have been, for him, essentially death—having his flesh-strips awarded to another. He, choosing banishment, had fled in the night under a small truce, and Moderan had all but forgotten him in the time that had passed.

We watched him go now while the days of our spring truce lasted. Up and down and across the lines of our fire he walked day and night, keeping our warners dinning, and it was an eerie thing, even for Moderan. Sometimes in the dead of night a small dull sound on the plastic or the sharp clink of a hinge joint working by would tell a late-up Stronghold man, perhaps looking to some better positioning of launchers or arming a doll bomb, that the silent one was near, having moved through the warner. No one offered him introven for his flesh-strips' hunger. No one paid him mind. Once banished, for us, was banished; he was nowhere. Then, too, when the truce-time lifted and we were once again busily and happily at war we knew he would, at the first go of the

launchers, be blasted without a trace. So what was to worry?

And yet, at high day, the vapor shield not too thick and he alongside a Stronghold, peering—something about him! Partly it was, of course, the mawkish fascination of seeing the dead come back, seeing the banished break banishment, knowing some strange deep kinship with the dead and the banished and yet not being able, or willing, even remotely to own that kinship. Not in Moderan!

Then one day, one vapor-purpled day, when the spring truce was near to lifting, with my steel hands trembling, my flesh-strips throbbing and the hate needs rising thick and good in my throat for getting on with the war, I heard him clinking near. My warner set up a close-din as he sought admittance through my Walls. Gaunt and wrecked and rusted he appeared in my viewer—a thing of no concern, banished and nowhere. And yet—and yet—who can say no when the dead come back with a message, or even with a look? I directed Decontamination and Weapons Search to give him the usual, and when he proved clean I thumbled the gates back in my eleven steel Walls for his entrance.

He stood before me, his beard looped around his waist. His face pieces went into chaos and at

last his mouth came open for speech. "I come to you," he said, "completely without motive of gain. I have been back to the old place where my Stronghold was once. I have lain among the tin trees that 'grow' there now in a little park for birds and plastic dogs. How much better, I think, were it still a thriving Stronghold, and I in it, to take part in the great spring wars due soon to commence. But that is merely, and of no moment, what I think. Once banished is once banished, and as you know there is no road back." He dropped his head for a little and I said, "There, there," or whatever it is one says when there is really nothing to say and everyone knows it. I thought of offering him introven for his flesh-strips' hunger. I thought of saying sorry, sorry. Really I did almost nothing, said almost nothing, and at last his head swayed up and the face pieces went into storm again.

"I come with hands that seek no gain," he cried. "At first I thought only to find the old haunts again, before it is too late, enjoy my heart's lacérations for the time of the truce and then pass slowly southward, south into the Wanderers' Country ahead of your heavy barrage. But seeing again this pleasant gray domain of such well-ordered hate and firm-planned war I

was seized with an old allegiance. I chose your Stronghold to plead in because you have one of the best, if not the best, records of any Stronghold. If I can warn you in time, perhaps we may just save a heritage, by an example."

I thanked him for the kind words about my Stronghold, told him modestly that perhaps other Strongholds were nearly as good, and he continued, almost screaming now. "Have you not seen those displays in the north, the south, the east, the west? The wings, the dancing sickening grimness of their grinners, the deadly cherub smiles, the sunshine men and never a vapor shield on their halos? Do you not know what's massing over the hills? Are the threats not plain, bold-plain?"

"Rumors have flown," I said, "word has spread, alerts have come down and we have seen. And yet, what can we do? We live our life out here, the Stronghold life, proving the workability of hate and the efficacy of good clean blasting when everyone knows what to expect from a neighbor and a friend—a missile in the back unless you're shooting first or guarding. And yet there are always some—some forces—that would beguile reality, transform the proved and proving into something guesslike and dreamlike. They'd

put a flower on cleanest clearest Truth, a cross, a haloed star—and call it Love. Whatever that could mean. But we'll keep sharp watch here, blast always at one another and when the big need comes be ready to turn our kill know-how on the invading hordes."

"My friend," he said, "my friend, you do not know what they can do, to what great lengths they'll go. Sickening! Terrible! I've lived among them, on the edges of their country. Having no country, after my banishment, I went up there. I've learned." For a moment his eyes were dreadful in a face gone ghastly-gaunt; the flexi-holes opened big and the steel balls of his wide-range Moderan vision swished and clinked. In the Old Days that look was perhaps approximated in the face of one who had just seen all his children done and down in an especially dramatic street wreck. "They'll stop short of no lengths!" he cried. "They'll move in at some truce time with their slogans. They'll come cantering, chantering over the hills through a Max Fire. They'll move down in the night, or at high vapor-shield noon, swiftly. You'll see. They'll spread a deadly, planned disorder when they come. They'll engage you in innumerable head-on slow-down encounters and set up disorgani-

zation and diversionary side-shows behind your back. They'll clap a needle to you when you're not watching and shoot you with metal softener. And where will you be then? Your fine steel heart that is so hate-sure now will become a soft debater. Not knowing where to stand you'll stand nowhere, and yet everywhere; jumping and jiggling from stance to stance you'll be a waverer then, you hypocrite, then!"

His face became a horror-mask, his beard shook and something he was thinking caused him to be seized with a bad case of honest metal-trembles. His fine steel mouth was a gray opening where shiny new-metal saber-teeth danced and gleamed when he shrieked, "They'll even stoop to putting truth serum in the introven—their truth. Give me, rather, the blasting—honest, honest blasting."

He calmed, the billowing beard lay quiet upon his chest, and somehow, looking at his still face—the calm that had recently been so choppy—I thought of a sea, or a sky perhaps that had in the Old Times just shaken out all its storm. "And now I go," he said, "through here on my way south, south to the Wanderers' Country, ahead of your wonderful barrage. An old old man am I who was, when young, perhaps not worthy of your great hate

leagues and so was banished. But I would save Moderan as a place to come back to, to hurt in, for the pleasant heart lacerations. I hope I do not hope unfounded. I trust I've warned you well, and in time. And now I think I'll go. Some trigger-happy Stronghold might lift the truce up early and catch me in a cross-fire."

He stood looking a little moment directly into my eyes with his face now unstormed completely, and for a heartbeat instant I was tempted to offer him a place as one of my weapons men, thinking perhaps we could coat his flesh-strips with plate and make him nearly all-metal new-metal alloy, at least acceptable to the Authorities at the next year's screening of weapons men. But I didn't seize the moment, and perhaps it was just as well. He probably wouldn't have accepted.

Soon after he left, out through the eleven steel Walls and over the homeless plastic, plop-plip-plap, working his hinges and braces slowly southward to the

Wanderers' Country, some trigger-happy Stronghold did lift the truce up early. But I hoped, and believed, he had got clear. Most of us in the interests of last-minute preparations and a better Open-Fire! held up until next day when the truce officially lifted, and with the blasting sharper than I had ever remembered it I thought perhaps his fears were all unfounded. So what if they were massing heart symbols and togetherness displays and smile battalions over the hills and preparing for a great Crusade and a Friendship League? We are pretty solid behind our hates here in Moderan. We know how to live. And unless they have something more awesome to wage with than their weak-valentine philosophies and white-grin slogans, they don't stand a chance, these hymn chanters and smile-league bat-tlers. We'll blast them on the perimeters; we'll cut their infil-trators to thinnest flesh-strip ribbons; we'll execute their spies, without a thought. We'll stand them off, so help us, until Time itself grows old!

THE END

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According to tradition, the man who held the Galactic Medal of Honor could do no wrong. In a strange way, Captain Don Mathers was to learn that this was true.

MEDAL OF HONOR

By MACK REYNOLDS

ILLUSTRATED by BERNKLAU

DON MATHERS snapped to attention, snapped a crisp salute to his superior, said, "Sub-lieutenant Donal Mathers reporting, sir."

The Commodore looked up at him, returned the salute, looked down at the report on the desk. He murmured, "Mathers, One Man Scout V-102. Sector A22-K223."

"Yes, sir," Don said.

The Commodore looked up at him again. "You've been out only five days, Lieutenant."

"Yes, sir, on the third day I seemed to be developing trouble in my fuel injectors. I stuck it out for a couple of days, but then decided I'd better come in

for a check." Don Mathers added, "As per instructions, sir."

"Ummm, of course. In a Scout you can hardly make repairs in space. If you have any doubts at all about your craft, orders are to return to base. It happens to every pilot at one time or another."

"Yes, sir."

"However, Lieutenant, it has happened to you four times out of your last six patrols."

Don Mathers said nothing. His face remained expressionless.

"The mechanics report that they could find nothing wrong with your engines, Lieutenant."

"Sometimes, sir, whatever is wrong fixes itself. Possibly a spot of bad fuel. It finally burns out and you're back on good fuel again. But by that time you're also back to the base."

The Commodore said impatiently, "I don't need a lesson in the shortcomings of the One Man Scout, Lieutenant. I piloted one for nearly five years. I know their shortcomings—and those of their pilots."

"I don't understand, sir."

The Commodore looked down at the ball of his thumb. "You're out in space for anywhere from two weeks to a month. All alone. You're looking for Kraden ships which practically never turn up. In military history the only remotely similar situation I can

think of were the pilots of World War One pursuit planes, in the early years of the war, when they still flew singly, not in formation. But even they were up there alone for only a couple of hours or so."

"Yes, sir," Don said meaninglessly.

The Commodore said, "We, here at command, figure on you fellows getting a touch of space cafard once in awhile and, ah, *imagining* something wrong in the engines and coming in. But," here the Commodore cleared his throat, "four times out of six? Are you sure you don't need a psych, Lieutenant?"

Don Mathers flushed. "No, sir, I don't think so."

The Commodore's voice went militarily expressionless. "Very well, Lieutenant. You'll have the customary three weeks leave before going out again. Dismissed."

Don saluted snappily, wheeled and marched from the office.

Outside, in the corridor, he muttered a curse. What did that chairborne brass hat know about space cafard? About the depthless blackness, the wretchedness of free fall, the tides of primitive terror that swept you when the animal realization hit that you were away, away, away from the environment that gave you birth. That you were alone, alone, *alone*. A million, a million-

million miles from your nearest fellow human. Space cafard, in a craft little larger than a good sized closet! What did the Commodore know about it?

Don Mathers had conveniently forgotten the other's claim to five years service in the Scouts.

He made his way from Space Command Headquarters, Third Division, to Harry's Neuvo Mexico Bar. He found the place empty at this time of the day and climbed onto a stool.

Harry said, "Hi, Lootenant, thought you were due for a patrol. How come you're back so soon?"

Don said coldly, "You prying into security subjects, Harry?"

"Well, gee, no Lootenant. You know me. I know all the boys. I was just making conversation."

"Look, how about some more credit, Harry? I don't have any pay coming up for a week."

"Why, sure. I got a boy on the light cruiser *New Taos*. Any spaceman's credit is good with me. What'll it be?"

"Tequila."

Tequila was the only concession the Neuvo Mexico Bar made to its name. Otherwise, it looked like every other bar has looked in every land and in every era. Harry poured, put out lemon and salt.

Harry said, "You hear the news this morning?"

"No, I just got in."

"Colin Casey died." Harry shook his head. "Only man in the system that held the Galactic Medal of Honor. Presidential proclamation, everybody in the system is to hold five minutes of silence for him at two o'clock, Sol Time. You know how many times that medal's been awarded, Lootenant?" Before waiting for an answer, Harry added, "Just thirty-six times."

Don added dryly, "Twenty-eight of them posthumously."

"Yeah." Harry, leaning on the bar before his sole customer, added in wonder, "But imagine. The Galactic Medal of Honor, the bearer of which can do no wrong. Imagine. You come to some town, walk into the biggest jewelry store, pick up a diamond bracelet, and walk out. And what happens?"

Don growled, "The jewelry store owner would be over-reimbursed by popular subscription. And probably the mayor of the town would write you a letter thanking you for honoring his fair city by deigning to notice one of the products of its shops. Just like that."

"Yeah." Harry shook his head in continued awe. "And, imagine, if you shoot somebody you don't like, you wouldn't spend even a single night in the Nick."

Don said, "If you held the Medal of Honor, you wouldn't

have to shoot anybody. Look, Harry, mind if I use the phone?"

"Go right ahead, Lootenant."

Dian Fuller was obviously in the process of packing when the screen summoned her. She looked into his face and said, surprised, "Why, Don, I thought you were on patrol."

"Yeah, I was. However, something came up."

She looked at him, a slight frown on her broad, fine forehead. "Again?"

He said impatiently, "Look, I called you to ask for a date. You're leaving for Callisto tomorrow. It's our last chance to be together. There's something in particular I wanted to ask you, Di."

She said, a touch irritated, "I'm packing, Don. I simply don't have time to see you again. I thought we said our goodbyes five days ago."

"This is important, Di,"

She tossed the two sweaters she was holding into a chair, or something, off-screen, and faced him, her hands on her hips.

"No it isn't, Don. Not to me, at least. We've been all over this. Why keep torturing yourself? You're not ready for marriage, Don. I don't want to hurt you, but you simply aren't. Look me up, Don, in a few years."

"Di, just a couple of hours this afternoon."

Dian looked him full in the

face and said, "Colin Casey finally died of his wounds this morning. The President has asked for five minutes of silence at two o'clock. Don, I plan to spend that time here alone in my apartment, possibly crying a few tears for a man who died for me and the rest of the human species under such extreme conditions of galantry that he was awarded the highest honor of which man has ever conceived. I wouldn't want to spend that five minutes while on a date with another member of my race's/armed forces who had deserted his post of duty."

Don Mathers turned, after the screen had gone blank, and walked stiffly to a booth. He sank onto a chair and called flatly to Harry, "Another tequila. A double tequila. And don't bother with that lemon and salt routine."

An hour or so later a voice said, "You Sub-lieutenant Donal Mathers?"

Don looked up and snarled. "So what? Go away."

There were two of them. Twins, or could have been. Empty of expression, heavy of build. The kind of men fated to be ordered around at the pleasure of those with money, or brains, none of which they had or would ever have.

The one who had spoken said, "The boss wants to see you."

"Who the hell is the boss?"

"Maybe he'll tell you when he sees you," the other said, patiently and reasonably.

"Well, go tell the boss he can go to the . . .

The second of the two had been standing silently, his hands in his great-coat pockets. Now he brought his left hand out and placed a bill before Don Mathers. "The boss said to give you this."

It was a thousand unit note. Don Mathers had never seen a bill of that denomination before, nor one of half that.

He pursed his lips, picked it up and looked at it carefully. Counterfeiting was a long lost art. It didn't even occur to him that it might be false.

"All right," Don said, coming to his feet. "Let's go see the boss, I haven't anything else to do and his calling card intrigues me."

At the curb, one of them summoned a cruising cab with his wrist screen and the three of them climbed into it. The one who had given Don the large denomination bill, dialed the address and they settled back.

"So what does the boss want with me?" Don said.

They didn't bother to answer.

The Interplanetary Lines building was evidently their destination. The car whisked them up to the penthouse which topped it, and they landed on the terrace.

Seated in beach chairs, an autobar between them, were two men. They were both in their middle years. The impossibly corpulent one, Don Mathers vaguely recognized. From a newscast? From a magazine article? The other could have passed for a video stereotype villain, complete to the built-in sneer. Few men, in actuality either look like or sound like the conventionalized villain. This was an exception, Don decided.

He scowled at them. "I suppose one of you is the boss," he said.

"That's right," the fat one grunted. He looked at Don's two escorts. "Scotty, you and Rogers take off."

They got back into the car and left.

The vicious faced one said, "This is Mr. Lawrence Demming. I am his secretary."

Demming puffed, "Sit down, Lieutenant. What'll you have to drink? My secretary's name is Rostoff. Max Rostoff. Now we all know each other's names. That is, assuming you're Sub-Lieutenant Donal Mathers."

Don said, "Tequila."

Max Rostoff dialed the drink for him and, without being asked, another cordial for his employer.

Don placed Demming now. Lawrence Demming, billionaire. Robber baron, he might have

been branded in an earlier age. Transportation baron of the solar system. Had he been a pig he would have been butchered long ago, he was going unhealthily to grease.

Rostoff said, "You have identification?"

Don Mathers fingered through his wallet, brought forth his I.D. card. Rostoff handed him his tequila, took the card and examined it carefully, front and back.

Demming huffed and said, "Your collar insignia tells me you pilot a Scout. What sector do you patrol, Lieutenant?"

Don sipped at the fiery Mexican drink, looked at the fat man over the glass. "That's military information, Mr. Demming."

Demming made a move with his plump lips. "Did Scotty give you a thousand unit note?" He didn't wait for an answer. "You took it. Either give it back or tell me what sector you patrol, Lieutenant."

Don Mathers was aware of the fact that a man of Demming's position wouldn't have to go to overmuch effort to acquire such information, anyway. It wasn't of particular importance.

He shrugged and said, "A22-K223. I fly the V-102."

Max Rostoff handed back the I.D. card to Don and picked up a Solar System sector chart from the short legged table that set

between the two of them and checked it. He said, "Your information was correct, Mr. Demming. He's the man."

Demming shifted his great bulk in his beach chair, sipped some of his cordial and said, "Very well. How would you like to hold the Galactic Medal of Honor, Lieutenant?"

Don Mathers laughed. "How would you?" he said.

Demming scowled. "I am not jesting, Lieutenant Mathers. I never jest. Obviously, I am not of the military. It would be quite impossible for me to gain such an award. But you are the pilot of a Scout."

"And I've got just about as much chance of winning the Medal of Honor as I have of giving birth to triplets."

The transportation magnate wiggled a disgustingly fat finger at him, "I'll arrange for that part of it."

Don Mathers goggled him. He blurted finally, "Like hell you will. There's not enough money in the system to fiddle with the awarding of the Medal of Honor. There comes a point, Demming, where even *your* dough can't carry the load."

Demming settled back in his chair, closed his eyes and grunted, "Tell him."

Max Rostoff took up the ball. "A few days ago, Mr. Demming and I flew in from Io on one of

the Interplanetary Lines freighters. As you probably know, they are completely automated. We were alone in the craft."

"So?" Without invitation, Don Mathers leaned forward and dialed himself another tequila. He made it a double this time. A feeling of excitement was growing within him, and the drinks, he'd had earlier had worn away. Something very big, very, very big, was developing. He hadn't the vaguest idea what.

"Lieutenant, how would you like to capture a Kraden light cruiser? If I'm not incorrect, probably Miro class."

Don laughed nervously, not knowing what the other was at but still feeling the growing excitement. He said, "In all the history of the war between our species, we've never captured a Kraden ship intact. It'd help a lot if we could."

"This one isn't exactly intact, but nearly so."

Don looked from Rostoff to Demming, and then back. "What in the hell are you talking about?"

"In your sector," Rostoff said, "we ran into a derelict Miro class cruiser. The crew—repulsive creatures—were all dead. Some thirty of them. Mr. Demming and I assumed that the craft had been hit during one of the actions between our fleet and theirs and that somehow both sides had

failed to recover the wreckage. At any rate, today it is floating, abandoned of all life, in your sector." Rostoff added softly, "One has to approach quite close before any signs of battle are evident. The ship looks intact."

Demming opened his eyes again and said, "And you're going to capture it."

Don Mathers bolted his tequila, licked a final drop from the edge of his lip. "And why should that rate the most difficult decoration to achieve that we've ever instituted?"

"Because," Rostoff told him, his tone grating mockery, "you're going to radio in reporting a Miro class Kraden cruiser. We assume your superiors will order you to stand off, that help is coming, that your tiny scout isn't large enough to do anything more than to keep the enemy under observation until a squadron arrives. But you will radio back that they are escaping and that you plan to attack. When your reinforcements arrive, Lieutenant, you will have conquered the Kraden, single handed, against odds of—what would you say, fifty to one?"

Don Mather's mouth was dry, his palms moist. He said, "A One Man Scout against a Miro class cruiser? At least fifty to one, Mr. Rostoff. At least."

Demming grunted. "There

would be little doubt of you getting the Galactic Medal of Honor, Lieutenant, especially since Colin Casey is dead and there isn't a living bearer of the award. Max, another drink for the Lieutenant."

Don said, "Look. Why? I think you might be right about getting the award. But why, and why me, and what's your percentage?"

Demming muttered, "Now we get to the point." He settled back in his chair again and closed his eyes while his secretary took over.

Max Rostoff leaned forward, his wolfish face very serious. "Lieutenant, the exploitation of the Jupiter satellites is in its earliest stages. There is every reason to believe that the new sources of radioactives on Callisto alone may mean the needed power edge that can give us the victory over the Kradens. Whether or not that is so, someone is going to make literally billions out of this new frontier."

"I still don't see . . ."

"Lieutenant Mathers," Rostoff said patiently, "the bearer of the Galactic Medal of Honor is above law. He carries with him an unalienable prestige of such magnitude that . . . Well, let me use an example. Suppose a bearer of the Medal of Honor formed a stock corporation to exploit the

pitchblende of Callisto. How difficult would it be for him to dispose of the stock?"

Demming grunted. "And suppose there were a few, ah, crossed wires in the manipulation of the corporation's business?" He sighed deeply. "Believe me, Lieutenant Mathers, there are an incredible number of laws which have accumulated down through the centuries to hamper the business man. It is a continual fight to be able to carry on at all. The ability to do no legal wrong would be priceless in the development of a new frontier." He sighed again, so deeply as to make his bulk quiver. "Priceless."

Rostoff laid it on the line, his face a leer. "We are offering you a three way partnership, Mathers. You, with your Medal of Honor, are our front man. Mr. Demming supplies the initial capital to get underway. And I . . ." He twisted his mouth with evil self-satisfaction. "I was present when the Kraden ship was discovered, so I'll have to be cut in. I'll supply the brains."

Demming grunted his disgust, but added nothing.

Don Mathers said slowly, looking down at the empty glass he was twirling in his fingers, "Look, we're up to our necks in a war to the death with the Kradens. In the long run it's either us or them. At a time like this

you're suggesting that we fake an action that will eventually enable us to milk the new satellites to the tune of billions."

Demming grunted meaninglessly.

Don said, "The theory is that all men, all of us, ought to have our shoulders to the wheel. This project sounds to me like throwing rocks under it."

Demming closed his eyes.

Rostoff said, "Lieutenant, it's a dog eat dog society. If we eventually lick the Kradens, one of the very reasons will be because we're a dog eat dog society. Every man for himself and the devil take the hindmost. Our apologists dream up some beautiful gobbledygook phrases for it, such as free enterprise, but actually it's a dog eat dog. Surprisingly enough, it works, or at least has so far. Right now, the human race needs the radioactives of the Jupiter satellites. In acquiring them, somebody is going to make a tremendous amount of money. Why shouldn't it be us?"

"Why not, if you—or we—can do it honestly?"

Demming's grunt was nearer a snort this time.

Rostoff said sourly, "Don't be naive, Lieutenant. Whoever does it, is going to need little integrity. You don't win in a sharper's card game by playing your cards honestly. The biggest sharper

wins. We've just found a joker somebody dropped on the floor, if we don't use it, we're suckers."

Demming opened his pig eyes and said, "All this on the academic side. We checked your background thoroughly before approaching you, Mathers. We know your record, even before you entered the Space Service. Just between the three of us, wouldn't you like out? There are a full billion men and women in our armed forces, you can be spared. Let's say you've already done your share. Can't you see the potentialities in spending the rest of your life with the Galactic Medal of Honor in your pocket?"

It was there all right, drifting slowly. Had he done a more thorough job of his patrol, last time, he should have stumbled upon it himself.

If he had, there was no doubt that he would have at first reported it as an active enemy cruiser. Demming and Rostoff had been right. The Kraden ship looked untouched by battle.

That is, if you approached it from the starboard and slightly abaft the beam. From that angle, in particular, it looked untouched.

It had taken several circlings of the craft to come to that conclusion. Don Mathers was playing it very safe. This thing wasn't quite so simple as the

others had thought. He wanted no slip ups. His hand went to a food compartment and emerged with a space thermo which should have contained fruit juice, but didn't. He took a long pull at it.

Finally he dropped back into the position he'd decided upon, and flicked the switch of his screen.

A base lieutenant's face illuminated it. He yawned and looked questioningly at Don Mathers.

Don said, allowing a touch of excitement in his voice, "Mathers, Scout V-102, Sector A22-K223."

"Yeah, yeah . . ." the other began, still yawning.

"I've spotted a Kraden cruiser. Miro class, I think."

The lieutenant flashed into movement. He slapped a button before him, the screen blinked, to be lit immediately again.

A gray haired Fleet Admiral looked up from papers on his desk.

"Yes?"

Don Mathers rapped, "Miro class Kraden in sector A22-K223, sir. I'm lying about fifty miles off. Undetected thus far—I think. He hasn't fired on me yet, at least."

The Admiral was already doing things with his hands. Two subalterns came within range of the screen, took orders, dashed

off. The Admiral was rapidly firing orders into two other screens. After a moment, he looked up at Don Mathers again.

"Hang on, Lieutenant. Keep him under observation as long as you can. What're your exact coordinates?"

Don gave them to him and waited.

A few minutes later the Admiral returned to him. "Let's take a look at it, Lieutenant."

Don Mathers adjusted the screen to relay the Kraden cruiser. His palms were moist now, but everything was going to plan. He wished that he could take another drink.

The Admiral said, "Miro class, all right. Don't get too close, Lieutenant. They'll blast you to hell and gone. We've got a task force within an hour of you. Just hang on."

"Yes, sir," Don said. An hour. He was glad to know that. He didn't have much time in which to operate.

He let it go another five minutes, then he said, "Sir, they're increasing speed."

"Damn," the Admiral said, then rapid fired some more into his other screens, barking one order after another.

Don said, letting his voice go very flat, "I'm going in, sir. They're putting on speed. In another five minutes they'll be underway to the point where I

won't be able to follow. They'll get completely clear."

The Admiral looked up, startled. "Don't be a fool."

"They'll get away, sir." Knowing that the other could see his every motion, Don Mathers hit the cocking lever of his flakflak gun with the heel of his right hand.

The Admiral snapped, "Let it go, you fool. You won't last a second." Then, his voice higher, "That's an order, Lieutenant!"

Don Mathers flicked off his screen. He grimaced sourly and then descended on the Kraden ship, his flakflak gun beaming it. He was going to have to expend every erg of energy in his Scout to burn the other ship up to the point where his attack would look authentic, and to eliminate all signs of previous action.

The awarding of the Galactic Medal of Honor, as always, was done in the simplest of ceremonies.

Only the President and Captain Donal Mathers himself were present in the former's office in the Presidential Palace.

However, as they both knew, every screen in the Solar System was tuned into the ceremony.

Don Mathers saluted and stood to attention.

The President read the citation. It was very short, as Medal of Honor citations were always.

... for conspicuous gallantry far and beyond the call of duty, in which you singlehandedly, and against unbelievable odds, attacked and destroyed an enemy cruiser while flying a Scout armed only with a short beam flakflak gun . . .

He pinned a small bit of ribbon and metal to Don Mather's tunic. It was an inconspicuous, inordinarily ordinary medal, the Galactic Medal of Honor.

Don said hoarsely, "Thank you, sir."

The President shook hands with him and said, "I am President of the United Solar System, Captain Mathers, supposedly the highest rank to which a man can attain." He added simply, "I wish I were you."

Afterwards, alone in New Washington and wanting to remain alone, Don Mathers strolled the streets for a time, bothered only occasionally when someone recognized his face and people would stop and applaud.

He grinned inwardly.

He had a suspicion already that after a time he'd get used to it and weary to death of it, but right now it was still new and fun. Who was the flyer, way back in history, the one who first flew the Atlantic in a propeller driven aircraft? His popularity must have been something like this.

He went into O'Donnell's at

lunch time and as he entered the orchestra broke off the popular tune they were playing and struck up the Interplanetary Anthem. The manager himself escorted him to his table and made suggestions as to the specialties and the wine.

When he first sat down the other occupants of the restaurant, men and women, had stood and faced him and applauded. Don flushed. There could be too much of a good thing.

After the meal, a fantastic production, Don finished his cigar and asked the head waiter for his bill, reaching for his wallet.

The other smiled. "Captain, I am afraid your money is of no value in O'Donnell's, not for just this luncheon but whenever you honor us." The head waiter paused and added, "in fact, Captain, I doubt if there is a restaurant in the Solar System where your money holds value. Or that there will ever be."

Don Mathers was taken aback. He was only beginning to realize the ramifications of his holding his Galactic Medal of Honor.

At Space Command Headquarters, Third Division, Don came to attention before the Commodore's desk and tossed the other a salute.

The Commodore returned it snappily and leaned back in his

chair. "Take a seat, Captain. Nice to see you again." He added pleasantly, "Where in the world have you been?"

Don Mathers slumped into a chair, said wearily, "On a bust. The bust to end all busts."

The Commodore chuckled. "Don't blame you," he said.

"It was quite a bust," Don said.

"Well," the Commodore chuckled again, "I don't suppose we can throw you in the guardhouse for being A.W.O.L. Not in view of your recent decoration."

There was nothing to say to that.

"By the way," the Commodore said, "I haven't had the opportunity to congratulate you on your Kraden. That was quite a feat, Captain."

"Thank you, sir," Don added, modestly, "rather foolish of me, I suppose."

"Very much so. On such foolishness are heroic deeds based, Captain." The Commodore looked at him questioningly. "You must have had incredible luck. The only way we've been able to figure it was that his detectors were on the blink. That may be what happened."

"Yes, sir," Don nodded quickly. "That's the way I figure it. And my first blast must have disrupted his fire control or something."

The Commodore said, "He

didn't get in any return fire at all?"

"A few blasts. But by that time I was in too close and moving too fast. Fact of the matter is, sir, I don't think they ever recovered from my first beaming of them."

"No, I suppose not," the Commodore said musingly. "It's a shame you had to burn them so badly. We've never recovered a Kraden ship in good enough shape to give our techs something to work on. It might make a basic difference in the war, particularly if there was something aboard that'd give us some indication of where they were coming from. We've been fighting this war in our backyard for a full century. It would help if we could get into *their* backyard for a change. It's problematical how long we'll be able to hold them off, at this rate."

Don Mathers said uncomfortably, "Well, it's not as bad as all that, sir. We've held them this far."

His superior grunted. "We've held them this far because we've been able to keep out enough patrol ships to give us ample warning when one of their task forces come in. Do you know how much fuel that consumes, Captain?"

"Well, I know its a lot."

"So much so that Earth's industry is switching back to pe-

troleum and coal. Every ounce of radioactives is needed by the Fleet. Even so, it's just a matter of time."

Don Mathers pursed his lips. "I didn't know it was that bad."

The Commodore smiled sourly at him. "I'm afraid I'm being a wet blanket thrown over your big bust of a celebration, Captain. Tell me, how does it feel to hold the system's highest award?"

Don shook his head, marveling. "Fantastic, sir. Of course, like any member of the services I've always known of the Medal of Honor, but . . . well, nobody ever expects to get it." He added wryly, "Certainly not while he's still alive and in health. Why, sir, do you realize that I haven't been able to spend one unit of money since?" There was an element of awe in his voice. "Sir, do you realize that not even a beggar will take currency from me?"

The Commodore nodded in appreciation. "You must understand the position you occupy, Captain. Your feat was inspiring enough, but that's not all of it. In a way you combine a popular hero with an *Unknown Soldier* element. Awarding you the Galactic Medal of Honor makes a symbol of you. A symbol representing all the millions of unsung heroes and heroines who have

died fighting for the human species. It's not a light burden to carry on your shoulders, Captain Mathers. I would imagine it a very humbling honor."

"Well, yes, sir," Don said.

The Commodore switched his tone of voice. "That brings us to the present, and what your next assignment is to be. Obviously, it wouldn't do for you to continue in a Scout. Big brass seems to be in favor of using you for morale and . . ."

Don Mathers cleared his throat and interrupted. "Sir, I've decided to drop out of the Space Service."

"Drop out!" The other stared at Mathers, uncomprehending. "We're at war, Captain!"

Don nodded seriously. "Yes, sir. And what you just said is true. I couldn't be used any longer in a Scout. I'd wind up selling bonds and giving talks to old ladies' clubs."

"Well, hardly that, Captain."

"No, sir, I think I'd really be of more use out of the services. I'm tendering my resignation and making arrangements to help in the developing of Callisto and the other Jupiter satellites."

The Commodore said nothing. His lips seemed whiter than before.

Don Mathers said doggedly, "Perhaps my prestige will help bring volunteers to work the new mines out there. If they see

me, well, sacrificing, putting up with the hardships . . ."

The Commodore said evenly, "Mr. Mathers, I doubt if you will ever have to put up with hardships again, no matter where you make your abode. However, good luck. You deserve it."

Outside headquarters, Don Mathers summoned a cab and dialed his hotel. On the way over, he congratulated himself. It had gone easier than he had expected, really. Although, come to think of it, there wasn't a damn thing that the brass could do.

He had to laugh to himself.

Imagine if he'd walked in on the Commodore a month ago and announced that he was going to *drop out* of the Space Service. He would have been dropped all right, all right. Right into the lap of a squadron of psycho experts.

At the hotel he shucked his uniform, an action which gave him considerable gratification, and dressed in one of the score of civilian costumes that filled his closets to overflowing. He took pleasure in estimating what this clothing would have cost in terms of months of Space Service pay for a Sub-lieutenant or even a Captain. *Years, my boy, years.*

He looked at himself in the

dressings room mirror with satisfaction, then turned to the autobar and dialed himself a stone age old Metaxa. He'd lost his taste for the plebian tequila in the last few days.

He held the old Greek brandy to the light and wondered pleasantly what the stuff cost, per pony glass. Happily, he'd never have to find out.

He tossed the drink down and whistling, took his private elevator to the garages in the second level of the hotel's basement floors. He selected a limousine and dialed the Interplanetary Lines building.

He left the car at the curb before the main entrance, ignoring all traffic regulations and entered the building, still whistling softly and happily to himself. He grinned when a small crowd gathered outside and smiled and clapped their hands. He grinned and waved to them.

A receptionist hurried to him and he told her he wanted to see either Mr. Demming or Mr. Rostoff and then when she offered to escort him personally he noticed her pixie-like cuteness and said, "What're you doing tonight, Miss?"

Her face went pale. "Oh, anything, sir," she said weakly.

He grinned at her. "Maybe I'll take you up on that if I'm not too busy."

He had never seen anyone so

taken aback. She said, all flustered, "I'm Toni. Toni Fitzgerald. You can just call this building and ask for me. Any time."

"Maybe I'll do that," he smiled. "But now, let's see Old Man Demming."

That took her back too. Aside from being asked for a date—if asked could be the term—by the system's greatest celebrity, she was hearing for the first time the interplanetary tycoon being called *Old Man Demming*.

She said, "Oh, right this way, Captain Mathers."

Don said, "Mr. Mathers now, I'm afraid. I have new duties."

She looked up into his face. "You'll always be Captain Mathers to me, sir." She added, softly and irrelevantly, "My two brothers were lost on the *Minerva* in that action last year off Pluto." She took a deep breath, which only stressed her figure. "I've applied six times for Space Service, but they won't take me."

They were in an elevator now. Don said, "That's too bad, Toni. However, the Space Service isn't as romantic as you might think."

"Yes, sir," Toni Fitzgerald said, her soul in her eyes. "You ought to know, sir."

Don was somehow irritated. He said nothing further until they reached the upper stories of the gigantic office building.

He thanked her after she'd turned him over to another receptionist.

Don Mathers' spirits had been restored by the time he was brought to the door of Max Rostoff's office. His new guide evidently hadn't even bothered to check on the man's availability, before ushering Mathers into the other's presence.

Max Rostoff looked up from his desk, wolfishly aggressive looking as ever. "Why, Captain," he said. "How fine to see you again. Come right in. Martha, that will be all."

Martha gave the interplanetary hero one more long look and then turned and left.

As soon as the door closed behind her, Max Rostoff turned and snarled, "Where have you been, you rummy?"

He couldn't have shocked Don Mathers more if he'd suddenly sprouted a unicorn's horn.

"We've been looking for you for a week," Rostoff snapped. "Out of one bar, into another, our men couldn't catch up with you. Dammit, don't you realize we've got to get going? We've got a dozen documents for you to sign. We've got to get this thing underway, before somebody else does."

Don blurted, "You can't talk to me that way."

It was the other's turn to

stare. Max Rostoff said, low and dangerously, "No? Why can't I?"

Don glared at him.

Max Rostoff said, low and dangerously, "Let's get this straight, Mathers. To everybody else, but Demming and me, you might be the biggest hero in the Solar System. But you know what you are to us?"

Don felt his indignation seeping from him.

"To us," Max Rostoff said flatly, "you're just another demi-buttocked incompetent on the make." He added definitely, "And make no mistake, Mathers, you'll continue to have a good thing out of this only so long as we can use you."

A voice from behind them said, "Let me add to that, period, end of paragraph."

It was Lawrence Demming, who'd just entered from an inner office.

He said, even his voice seemed fat, "And now that's settled, I'm going to call in some lawyers. While they're around, we conduct ourselves as though we're three equal partners. On paper, we will be."

"Wait a minute, now," Don blurted. "What do you think you're pulling? The agreement was we split this whole thing three ways."

Demming's jowls wobbled as he nodded. "That's right. And your share of the loot is your

Galactic Medal of Honor. That and the dubious privilege of having the whole thing in your name. You'll keep your medal, and we'll keep our share." He growled heavily, "You don't think you're getting the short end of the stick, do you?"

Max Rostoff said, "Let's knock this off and get the law boys in. We've got enough paper work to keep us busy the rest of the week." He sat down again at his desk and looked up at Don. "Then we'll all be taking off for Callisto, to get things under way. With any luck, in six months we'll have every ounce of pitchblende left in the system sewed up."

There was a crowd awaiting his ship at the Callisto Spaceport. A crowd modest by Earth standards but representing a large percentage of the small population of Jupiter's moon.

On the way out, a staff of the system's best speech writers, and two top professional actors had been working with him.

Don Mathers gave a short preliminary talk at the spaceport, and then the important one, the one that was broadcast throughout the system, that night from his suite at the hotel. He'd been well rehearsed, and they'd kept him from the bottle except for two or three quick ones immediately before going on.

The project at hand is to extract the newly discovered deposits of pitchblende on these satellites of Jupiter.

He paused impressively before continuing.

It's a job that cannot be done in slipshod, haphazard manner. The system's need for radioactives cannot be overstressed.

In short, fellow humans, we must allow nothing to stand in the way of all out, unified effort to do this job quickly and efficiently. My associates and I have formed a corporation to manage this crash program. We invite all to participate by purchasing stock. I will not speak of profits, fellow humans, because in this emergency we all scorn them. However, as I say, you are invited to participate.

Some of the preliminary mining concessions are at present in the hands of individuals or small corporations. It will be necessary that these turn over their holdings to our single all-embracing organization for the sake of efficiency. Our experts will evaluate such holdings and recompense the owners.

Don Mathers paused again for emphasis.

This is no time for quibbling. All must come in. If there are those who put private gain before the needs of the system, then pressures must be found to be exerted against them.

We will need thousands and tens of thousands of trained workers to operate our mines, our mills, our refineries. In the past, skilled labor here on the satellites was used to double or even triple the wage rates on Earth and the settled planets and satellites. I need only repeat, this is no time for personal gain and quibbling. The corporation announces proudly that it will pay only prevailing Earth rates. We will not insult our employees by "bribing" them to patriotism through higher wages.

There was more, along the same lines.

It was all taken very well. Indeed, with enthusiasm.

On the third day, at an office conference, Don waited for an opening to say, "Look, somewhere here on Callisto is a young woman named Dian Fuller. After we get me established in an office, I'd like her to be my secretary."

Demming looked up from some reports he was scanning. He grunted to Max Rostoff, "Tell him," and went back to the papers.

Max Rostoff, settled back into his chair. He said to the two bodyguards, stationed at the door, "Scotty, Rogers, go and make the arrangements to bring that damned prospector into line."

When they were gone, Rostoff turned back to Don Mathers. "You don't need an office, Mathers. All you need is to go back to your bottles. Just don't belt it so hard that you can't sign papers every time we need a signature."

Don flushed angrily, "Look, don't push me, you two. You need me. Plenty. In fact, from what I can see, this corporation needs me more than it does you." He looked scornfully at Demming. "Originally, the idea was that you put up the money. What money? We have fifty-one percent of the stock in my name, but all the credit units needed are coming from sales of stock." He turned to Rostoff. "You were supposed to put up the brains. What brains? We've hired the best mining engineers, the best technicians, to do their end, the best corporation executives to handle that end. You're not needed."

Demming grunted amusement at the short speech, but didn't bother to look up from his perusal.

Max Rostoff's face had grown wolfishly thin in his anger. "Look, bottle-baby," he sneered, "you're the only one that's vulnerable in this set-up. There's not a single thing that Demming and I can be held to account for. You have no beefs coming, for that matter. You're getting

everything you ever wanted. You've got the best suite in the best hotel on Callisto. You eat the best food the Solar System provides. And, most important of all to a rummy, you drink the best booze and as much of it as you want. What's more, unless either Demming or I go to the bother, you'll never be exposed. You'll live your life out being the biggest hero in the system."

It was Don Mathers' turn to sneer. "What do you mean, I'm the only one vulnerable? There's no evidence against me, Rostoff, and you know it. Who'd listen to you if you sounded off? I burned that Kraden cruiser until there wasn't a sign to be found that would indicate it wasn't in operational condition when I first spotted it."

Demming grunted his amusement again.

Max Rostoff laughed sourly. "Don't be an ass, Mathers. We took a series of photos of that derelict when we stumbled on it. Not only can we prove you didn't knock it out, we can prove that it was in good shape before you worked it over. I imagine the Fleet technician would have loved to have seen the inner workings of that Kraden cruiser—before you loused it up."

Demming chuckled flatly. "I wonder what kind of a court martial they give a hero who turns out to be a saboteur."

He ran into her, finally, after he'd been on Callisto for nearly eight months. Actually, he didn't remember the circumstances of their meeting. He was in an alcoholic daze and the fog rolled out, and there she was across the table from him.

Don shook his head, and looked about the room. They were in some sort of night spot. He didn't recognize it.

He licked his lips, scowled at the taste of stale vomit.

He slurred, "Hello, Di."

Dian Fuller said, "Hi, Don."

He said, "I must've blanked out. Guess I've been hitting it too hard."

She laughed at him. "You mean you don't remember all the things you've been telling me the past two hours?" She was obviously quite sober. Dian never had been much for the sauce.

Don looked at her narrowly. "What've I been telling you for the past two hours?"

"Mostly about how it was when you were a little boy. About fishing, and your first .22 rifle. And the time you shot the squirrel, and then felt so sorry."

"Oh," Don said. He ran his right hand over his mouth.

There was a champagne bucket beside him, but the bottle in it was empty. He looked about the room for a waiter.

Dian said gently, "Do you

really think you need any more, Don?"

He looked across the table at her. She was as beautiful as ever. No, that wasn't right. She was pretty, but not beautiful. She was just a damn pretty girl, not one of these glamour items.

Don said, "Look, I can't remember. Did we get married?"

Her laugh tinkled. "Married! I only ran into you two or three hours ago." She hesitated before saying further, "I had assumed that you were deliberately avoiding me. Callisto isn't that big."

Don Mathers said slowly, "Well, if we're not married, let me decide when I want another bottle of the grape, eh?"

Dian flushed. "Sorry, Don."

The headwaiter approached bearing another magnum of vintage wine. He beamed at Don Mathers. "Having a good time, sir?"

"Okay," Don said shortly. When the other was gone he downed a full glass, felt the fumes almost immediately.

He said to Dian, "I haven't been avoiding you, Di. We just haven't met. The way I remember, the last time we saw each other, back on Earth, you gave me quite a slap in the face. The way I remember, you didn't think I was hero enough for you." He poured another glass of the champagne.

Di's face was still flushed. She said, her voice low, "I misunderstood you, Don. Even after your brilliant defeat of that Kraden cruiser, I still, I admit, think I basically misunderstood you. I told myself that it could have been done by any pilot of a Scout, given that one in a million break. It just happened to be you, who made that suicide dive attack that succeeded. A thousand other pilots might also have taken the million to one suicide chance rather than let the Kraden escape."

"Yeah," Don said. Even in his alcohol, he was surprised at her words. He said gruffly, "Sure anybody might've done it. Pure luck. But why'd you change your mind about me, then? How come the switch of heart?"

"Because of what you've done since, darling."

He closed one eye, the better to focus.

"Since?"

He recognized the expression in her eyes. A touch of star gleam. That little girl back on Earth, the receptionist at the Interplanetary Lines building, she'd had it. In fact, in the past few months Don had seen it in many feminine faces. And all for him.

Dian said, "Instead of cashing in on your prestige, you've been devoting yourself to something even more necessary to the fight

than bringing down individual Kraden cruisers."

Don looked at her. He could feel a nervous tic beginning in his left eyebrow. Finally, he reached for the champagne again and filled his glass. He said, "You really go for this hero stuff, don't you?"

She said nothing, but the star shine was still in her eyes.

He made his voice deliberately sour. "Look, suppose I asked you to come back to my apartment with me tonight?"

"Yes," she said softly.

"And told you to bring your overnight bag along," he added brutally.

Dian looked into his face. "Why are you twisting yourself, your inner-self, so hard, Don? Of course I'd come—if that's what you wanted."

"And then," he said flatly, "suppose I kicked you out in the morning?"

Dian winced, but she kept her eyes even with his, her own moist now. "You forget," she whispered. "You have been awarded the Galactic Medal of Honor, the bearer of which can do no wrong."

"Oh, God," Don muttered. He filled his glass, still again, motioned to a nearby waiter.

"Yes, sir," the waiter said.

Don said, "Look, in about five minutes I'm going to pass out. See that I get back to my hotel,

will you? And that this young lady gets to her home. And, waiter, just send my bill to the hotel too."

The other bowed. "The owner's instructions, sir, are that Captain Mathers must never see a bill in this establishment."

Dian said, "Don!"

He didn't look at her. He raised his glass to his mouth and shortly afterward the fog rolled in again.

When it rolled out, the unfamiliar taste of black coffee was in his mouth. He shook his head for clarity.

He seemed to be in some working class restaurant. Next to him, in a booth, was a fresh faced Sub-lieutenant of the—Don squinted at the collar tabs—yes, of the Space Service. A Scout pilot.

Don stuttered, "What's . . . goin' . . . on?"

The pilot said apologetically, "Sub-lieutenant Pierpont, sir. You seemed so far under the weather, I took over."

"Oh, you did, eh?"

"Well, yes, sir. You were, well, reclining in the gutter, sir. In spite of your, well, appearance, your condition, I recognized you, sir."

"Oh." His stomach was an obnoxious subject.

The Lieutenant said, "Want to try some more of this coffee now,

sir? Or maybe some soup or a sandwich?"

Don groaned. "No. No, thanks. Don't think I could hold it down."

The pilot grinned. "You must've thrown a classic, sir."

"I guess so. What time is it? No, that doesn't make any difference. What's the date?"

Pierpont told him.

It was hard to believe. The last he could remember he'd been with Di. With Di in some nightclub. He wondered how long ago that had been.

He fumbled in his clothes for a smoke and couldn't find one. He didn't want it anyway.

He growled at the Lieutenant, "Well, how go the One Man Scouts?"

Pierpont grinned back at him. "Glad to be out of them, sir?" "Usually."

Pierpont looked at him strangely. "I don't blame you, I suppose. But it isn't as bad these days as it used to be while you were still in the Space Service, sir."

Don grunted. "How come? Two weeks to a month, all by yourself, watching the symptoms of space cafard progress. Then three weeks of leave, to get drunk in, and then another stretch in space."

The pilot snorted deprecation. "That's the way it used to be." He fingered the spoon of his cof-

fee cup. "That's the way it still should be, of course. But it isn't. They're spreading the duty around now and I spend less than one week out of four on patrol."

Don hadn't been listening too closely, but now he looked up. "What'd'ya mean?"

Pierpont said, "I mean, sir, I suppose this isn't bridging security, seeing who you are, but fuel stocks are so low that we can't maintain full patrols any more."

There was a cold emptiness in Don Mather's stomach.

He said, "Look, I'm still woozy. Say that again, Lieutenant."

The Lieutenant told him again. Don Mathers rubbed the back of his hand over his mouth and tried to think.

He said finally, "Look, Lieutenant. First let's get another cup of coffee into me, and maybe that sandwich you were talking about. Then would you help me to get back to my hotel?"

By the fourth day, his hands weren't trembling any longer. He ate a good breakfast, dressed carefully, then took a hotel limousine down to the offices of the Mathers, Demming and Rosstoft Corporation.

At the entrance to the inner sanctum the heavyset Scotty looked up at his approach. He said, "The boss has been looking

for you, Mr. Mathers, but right now you ain't got no appointment, have you? Him and Mr. Rostoff is having a big conference. He says to keep everybody out."

"That doesn't apply to me, Scotty," Don snapped. "Get out of my way."

Scotty stood up, reluctantly, but barred the way. "He said it applied to everybody, Mr. Mathers."

Don put his full weight into a blow that started at his waist, dug deep into the other's middle. Scotty doubled forward, his eyes bugging. Don Mathers gripped his hands together into a double fist and brought them upward in a vicious uppercut.

Scotty fell forward and to the floor.

Don stood above him momentarily, watchful for movement which didn't develop. The hefty bodyguard must have been doing some easy living himself. He wasn't as tough as he looked.

Don knelt and fished from under the other's left arm a vicious looking short barrelled scrambler. He tucked it under his own jacket into his belt, then turned, opened the door and entered the supposedly barred office.

Demming and Rostoff looked up from their work across a double desk.

Both scowled. Rostoff opened

his mouth to say something and Don Mathers rapped, "Shut up."

Rostoff blinked at him. Demming leaned back in his swivel chair. "You're sober for a change," he wheezed, almost accusingly.

Don Mathers pulled up a stenographer's chair and straddled it, leaning his arms on the back. He said coldly, "Comes a point when even the lowest worm turns. I've been checking on a few things."

Demming grunted amusement.

Don said, "Space patrols have been cut far below the danger point."

Rostoff snorted. "Is that supposed to interest us? That's the problem of the military—and the government."

"Oh, it interests us, all right," Don growled. "Currently, Mathers, Demming and Rostoff control probably three-quarters of the system's radioactives."

Demming said in greasy satisfaction, "More like four-fifths."

"Why?" Don said bluntly. "Why are we doing what we're doing?"

They both scowled, but another element was present in their expressions too. They thought the question unintelligent.

Demming closed his eyes in his porcine manner and grunted, "Tell him."

Rostoff said, "Look, Mathers, don't be stupid. Remember when we told you, during that first interview, that we wanted your name in the corporation, among other reasons, because we could use a man who was above law? That a maze of ridiculously binding ordinances have been laid on business down through the centuries?"

"I remember," Don said bitterly.

"Well, it goes both ways. Government today is also bound, very strongly, and even in great emergency, not to interfere in business. These complicated laws balance each other, you might say. Our whole legal system is based upon them. Right now, we've got government right where we want it. This is free enterprise, Mathers, at its pinnacle. Did you ever hear of Jim Fisk and his attempt to corner gold in 1869, the co-called Black Friday affair? Well, Jim Fisk was a peanut peddler compared to us."

"What's this got to do with the Fleet having insufficient fuel to . . ." Don Mathers stopped as comprehension hit him. "You're holding our radioactives off the market, pressuring the government for a price rise which it can't afford."

Demming opened his eyes and said fatly, "For triple the price, Mathers. Before we're through,

we'll corner half the wealth of the system."

Don said, "But . . . but the species is . . . at . . . war."

Rostoff sneered, "You seem to be getting noble rather late in the game, Mathers. Business is business."

Don Mathers was shaking his head. "We immediately begin selling our radioactives at cost of production. I might remind you gentlemen that although we're supposedly a three way partnership, actually, everything's in my name. You thought you had me under your thumb so securely that it was safe—and you probably didn't trust each other. Well, I'm blowing the whistle."

Surprisingly fast for such a fat man, Lawrence Demming's hand flitted into a desk drawer to emerge with a twin of the scrambler tucked in Don's belt.

Don Mathers grinned at him, even as he pushed his jacket back to reveal the butt of his own weapon. He made no attempt to draw it, however.

He said softly, "Shoot me, Demming, and you've killed the most popular man in the Solar System. You'd never escape the gas chamber, no matter how much money you have. On the other hand, if I shoot you . . ."

He put a hand into his pocket and it emerged with a small, in-

ordinately ordinary bit of ribbon and metal. He displayed it on his palm.

The fat man's face whitened at the ramifications and his hand relaxed to let the gun drop to the desk. "Listen, Don," he broke out. "We've been unrealistic with you. We'll reverse ourselves and split, honestly—split three ways."

Don Mathers laughed at him. "Trying to bribe me with money, Demming? Why don't you realize, that I'm the only man in existence who has no need for money, who can't spend money? That my fellow men—whom I've done such a good job of betraying—have honored me to a point where money is meaningless?"

Rostoff snatched up the fallen gun, snarling, "I'm calling your bluff, you gutless rummy."

Don Mathers said, "Okay, Rostoff. There's just two other things I want to say first. One—I don't care if I die or not. Two—you're only twenty feet or so away, but you know what? I think you're probably a lousy shot. I don't think you've had much practice. I think I can get my scrambler out and cut you down before you can finish me." He grinned thinly, "Wanta try?"

Max Rostoff snarled a curse and his finger whitened on the trigger.

Don Mathers fell sideward,

his hand streaking for his weapon. Without thought there came back to him the long hours of training in hand weapons, in judo, in hand to hand combat. He went into action with cool confidence.

At the spaceport he took a cab to the Presidential Palace. It was an auto-cab, of course, and at the Palace gates he found he had no money on him. He snorted wearily. It was the first time in almost a year that he'd had to pay for anything.

Four sentries were standing at attention. He said, "Do one of you boys have some coins to feed into this slot? I'm fresh out."

A sergeant grinned, approached, and did the necessary.

Don Mathers said wearily, "I don't know how you go about this. I don't have an appointment, but I want to see the President."

"We can turn you over to one of the assistant secretaries, Captain Mathers," the sergeant said. "We can't go any further than that. While we're waiting, what's the chances of getting your autograph, sir? I gotta kid . . ."

It wasn't nearly as complicated as he'd thought it was going to be. In half an hour he was seated in the office where he'd received his decoration only—how long ago was it, really less than a year?

He told the story briefly, making no effort to spare himself. At the end he stood up long enough to put a paper in front of the other, then sat down again.

"I'm turning the whole corporation over to the government . . ."

The President said, "Wait a minute. My administration does not advocate State ownership of industry."

"I know. When the State controls industry you only put the whole mess off one step, the question then becomes, who controls the State? However, I'm not arguing political economy with you, sir. You didn't let me finish. I was going to say, I'm turning it over to the government to untangle, even while making use of the inventories of radioactives. There's going to be a lot of untangling to do. Reimbursing the prospectors and small operators who were black-jacked out of their holdings by our super-corporation. Reimbursing of the miners and other laborers who were talked into accepting low pay in the name of patriotism." Don Mathers cut it short. "Oh, it's quite a mess."

"Yes," the President said. "And you say Max Rostoff is dead?"

"That's right. And Demming off his rocker. I think he always

was a little unbalanced and the prospect of losing all that money, the greatest fortune ever conceived of, tipped the scales."

The President said, "And what about you, Donal Mathers?"

Don took a deep breath. "I wish I was back in the Space Services, frankly. Back where I was when all this started. However, I suppose that after my court martial, there won't be . . ."

The President interrupted gently. "You seem to forget, Captain Mathers. You carry the Galactic Medal of Honor, the bearer of which can do no wrong."

Don Mathers gaped at him.

The President smiled at him, albeit a bit sourly. "It would hardly do for human morale to find out our supreme symbol of heroism was a phoney, Captain. There will be no trial, and you will retain your decoration."

"But I don't want it!"

"I'm afraid that is the cross you'll have to bear the rest of your life, Captain Mathers. I don't suppose it will be an easy one."

His eyes went to a far corner of the room, but unseeingly. He said after a long moment, "However, I am not so very sure about your not deserving your award, Captain."

THE END

AMAZING STORIES

POLYGAMY, POLYANDRY

And The Future

By **LESTER DEL REY**

In a world where men do housework and women run offices, the old balance of the sexes is coming apart at the seams. Is a revolution in sexual mores the answer for the future, both here on Earth and outward in the new worlds of space?

SCIENCE FICTION has grown more mature, according to what the newer writers tell me. It has stopped merely examining gadgets and has begun to explore the future of man's social patterns. This is a nice theory; but either it is wrong, or the explorers are too timid to look at the most basic of all man's social behavior, which is the manner in which he forms the family unit.

Thus, the idea of monogamy, for example, is all too rarely questioned.

The rule of "one man, one woman," is not a natural law. The future is almost certainly not going to be able to accept it. The hard demands of space travel are going to make monogamy impossible at times. Even on earth—where half the world already accepts some form of polygamy—

there are growing problems which probably cannot be answered for the future without drastic changes in our sexual customs. Yet the logical solution for these problems is one science fiction has hardly considered.

A few science fiction writers have speculated on different marriage customs, of course. Fritz Leiber took a look at group marriage. Robert A. Heinlein postulated a world where what went on between men and women was their own business, and no concern of society. Poul Anderson and several others have set up worlds of women without men. Such examples are rare, and seldom are based on any very deep consideration of the reasons underlying customs and their changes.

Nevertheless, there usually are sound historical reasons for most social customs, and there are rather ugly factors already at work today which may well make monogamy unsuitable for the future.

Just what is the reason for the existence of monogamy?

In spite of Hollywood, romantic love has very little to do with it. Romantic love was originally so exceptional until *after* long marital coexistence that its very rarity was what made it the subject of song and story. The marriage broker may well have produced more viable marriages

than any love affair. It might also be remembered that the beautiful Song of Solomon is named for a man who specialized in having a great many women (wives?).

Neither is innate superiority involved. To be sure, Egypt and Mesopotamia, Greece and Rome, and most of the fertile ground of our civilization were superficially monogamous cultures. Still, China and India produced great spurts of progress without universal monogamy.

I've been told that monogamy is founded on the deeper moral virtue of Western man. Aside from being racist nonsense, that has been proven untrue within our own country. When the Mormons found themselves with a great surplus of women converts, it was "revealed" that polygamy was the answer; and within a few years a group of people of the highest devotion to morality changed their customs with no sign of strain or dissatisfaction by either the men or women.

Men and women marry for a number of reasons, all of which are of highly practical origin. The family unit—monogamous or polygamous—is necessary to rear our slow-developing children into adults. In all early social structures the difference in the sexes forced men and women to work together in order to rear

families. Men were physically better adapted to work requiring brute strength. A woman and her children had to have the protection of one man, at least; and she needed his developed muscles for both war and the wresting of food from the ground or plain. On the other hand, a man's work left him no chance to rear children properly or to develop the household skills needed to give him the real reward of his efforts. So a division of labor inevitably evolved that favored marriage.

In nomadic cultures and among herd-tending peoples women were capable of doing much of the work; the lack of great riches prevented more than sporadic raiding, so that a few men could offer protection to a tribe. Here polygamy was the natural order of things. In such abjectly impoverished areas as parts of Tibet, one man could never hope to work hard enough to support a family; polyandry—the reverse of polygamy, in which one woman takes several husbands—became a necessity.

THE SEXUAL IMBALANCE

Hunting peoples and warlike peoples found that one woman's work matched the predatory labor of one man, and monogamy became the rule. Even in settling America, a bachelor soon found that he literally needed a wife to

share his work in making a homestead, though one was about all he could support.

Technology has now upset this. There is no necessary division of labor in a machine age, and there is a total imbalance of mutual advantages between the sexes. Today one man can no longer afford one wife, either physically, emotionally, or psychologically.

For the first time in history, women are outliving men; today the average woman can expect to live four years longer than the average man—and the difference is increasing. The nonsense about women's being inherently tougher than men isn't worth considering; for a million years, men *had* to be tougher to stand the physical strains of his work. His deaths in battle balanced her deaths in childbirth. And in countries with modern medicine but less technology, men still outlive women, as proof of this. But in America, the unbalanced strains of marriage are already cutting four years off the life of every man!

Look at the divorce statistics. Don't blame the change in morality, either; morality changes with the needs of the time. Look at the rise in ulcers among men—or of impotency before fifty, high blood pressure, and early heart attacks. Or consider the fact that a tracing agency re-

ports five times as many women complaining of missing husbands as there are men looking for wives.

Women no longer need men as they did of old, nor the labor of men. And while they may not put that idea into words, they are acting upon the knowledge.

THE STRONGER SEX

A man cannot offer protection to a woman today. A strong sword arm and a back that can carry a hundred pounds on a forty-mile march are no good against atomic bombs and strafing planes. Women don't even need most of the physical labor of men; no man can compete with a hundred-horsepower engine that can be run by a child. In a technological culture, women can do nearly all the jobs as well as the men, whenever they choose. They can compete on equal footing in the labor market (except for the artificial, unreal and dying prejudice against their work) and can be their own meal-ticket with no need of a husband or the grudging help of a sister's husband.

A woman doesn't even need a man to bring up a family, except for the social disapproval of unwedded motherhood—which is already far weaker than it was when I was a child. Health insurance, vacation flexibility and a saner attitude toward preg-

nancy have made it possible for her to bear children without losing her financial independence. There are day-nurseries to assist working mothers. After the first five years, the schools take over during working hours.

Men are in no such fortunate situation. The man who wants a family can bring it up only by contracting a permanent alliance with a woman. In most other ways there is no real need by men for women's labor. Small houses with modern appliances can be run with a minimum of effort and time. No wood need be chopped, no water pumped, no soap made or clothes boiled and ironed. There are services for all the basic needs. Even food comes pre-packaged, needing only heating. (It's incredibly bad food but so was most of grandmother's cooking, in spite of the legends.) A bachelor friend of mine who kept a very neat six-room house and entertained fairly often figured that he averaged no more than nine hours a week to care for all the "woman's work."

As a result of the imbalance of necessity, women are bargaining from a position of strength. They demand and get more and more for the loss of their potential independence. They have no concept of real work themselves (as their grandmothers knew it) and hence cannot appreciate that their men may be tired. They

have shoved more and more of their remaining work onto the men. Men do the shopping today, dry the dishes, change the baby, and carry out the garbage. In 1860, a man worked twelve hours a day, and came home to a wife who made sure he got every possible bit of relaxation from his four free hours; it was economic necessity for her that he do so. Today after eight hours of work, a man comes home to face a series of household chores that are not hard but use up the time he needs to relax.

Wives also demand more in other ways. The clerk's wife dresses like the movie actresses in the movies she demands to see. Whole industries cater to her sprees of needless shopping. The combination of little necessary work and natural boredom demands relief—and there are expensive means always at hand. The man of 1860 found he could earn perhaps half again as much with a wife to ease his burdens, and the two could live for about 20% more than it cost him alone. Today, a wife will almost double his expenses at first and treble and quadruple them later.

NO EQUALITY

Of course it's a matriarchy! It has to be, and through no fault of women, who probably don't like it any better than men. But there can be no equality

between unequal positions of strength. This matriarchic tendency is having a still further effect in reducing the respect of sons for fathers, and in making those sons more prone to accept the domination by women—mothers, teachers, or wives.

Lest women think this article is entirely anti-feminine—it's only mostly so—I might add that patriarchies are no better. They existed wherever man's prowess in grainfield and battlefield gave him the superior position, and they resulted in the untimely death of uncounted women. Either a matriarchy or a patriarchy is a pretty good sign that the balance of labor is wrong and that there must be a change soon in the customs based upon it.

For a time, this will probably result in an increasing surplus of women over men. And the short-range answer to this may well be some form of polygamy in which one man has more women than we consider proper now. Since moral codes change more slowly than patterns of conduct—and laws often even more slowly—this may be a form of illicit polygamy, like the wife and m's-tress situation the rich men of past days often set up. But no code of morality can survive when any large majority of the population consistently violates it. So the taboo will probably be removed, and polygamy will be

accepted after an initial period of crumbling social foundations.

In the long run, what good is it going to do men to take more than one woman apiece? If a man can't afford even one wife, he certainly can't carry the burden of two! The only possible answer must be some form of polyandry, in which more than one man will unite to support the burden of a single woman.

Seemingly, this would make things even worse by increasing the surplus of manless women. However, there is nothing to prevent the control of the sex of offspring among human beings; the technique is already so well known that cattle breeders use it regularly with a high percentage of success. In a world where men are much rarer than women, the old wish of couples to have sons before daughters will be strengthened automatically. Female births will eventually drop to meet the requirements of the society.

SEX IN SPACE

Probably one factor which will help to bring about the acceptance of polyandry on earth will be the early settling of the planets around our sun. The first accepted break from current moral codes may come on the Moon, on Mars or on Venus. Those worlds will be explored first by men. There may be some women—

since it seems that women will make better long-voyage space pilots than men due to their ability to operate calmly and reliably under extreme conditions of monotony. But the men will constitute the bulk of the early explorers.

Somehow, some of those men will find ways of living on the other worlds, and will decide to stay. Once that decision is made, there will be a growing compulsion for women. Adventure and danger are substitutes for a time, but not permanently.

Getting women will be a knotty problem. The governments here won't find much immediate advantage in the outer worlds of space; they'll fear the dangers and distrust the colonies. They won't willingly provide women to such worlds for fear of repercussions at home. So the men will have to do exactly what the settlers of Virginia Colony did—they'll have to pay the passage for whatever kind of women they can get to volunteer.

Freight rates are going to be literally and figuratively astronomical. If ten men can scrape together the fare for one woman, they will be remarkably lucky; certainly no single man will be able to do it. And it hardly seems likely that nine men will use their funds to provide the tenth with a wife. There will be first secret agreements, then open

covenants to share one wife among many men.

Earth will unquestionably protest—but Earth will be far away, and police forces will be far too expensive for what they could do. By the time a real colony begins the colonists are going to demand and get the rights they want. (Mormons demanded that the United States recognize previously contracted polygamous marriages; the government acceded, and made some polygamy legal in the last century.) This will serve to break down the barriers against polyandry at home. (How can you object too vigorously when someone you know is already openly and acceptedly practicing such a marriage?) And it will probably be easier for the colonies to gain their point because of the pressures driving the mother world toward such a custom.

Oddly, in the long run the neighbor planets may return to monogamy because it will become economically sound. Those planets will never be able to support such a lush technology as earth can, and conditions will be tough enough to make one man plus one woman again the soundest economic unit. About the time that earth is turning to official polyandry, Mars may be going through a great moral "reform" to return to the ancient ways of the race!

Since that which one is compelled to adopt becomes sacrosanct moral law, both earth and the colonies will probably stare across space at each other in righteous horror.

GENES IN DEEP-FREEZE

Things will become even more complicated when men finally send ships to the stars. Once habitable worlds are found, man's desire to spread his seed to the stars will force such trips, though they will take hundreds of years; only the remote descendants of the original voyagers can hope to reach such distant worlds, and the crew will have to be kept to a small number.

None of the original crew will be men.

It's obviously wiser to send fifty women and frozen male spermatazoa. This system would avoid the greatest danger on such a long journey—inbreeding from too small a group. With a sperm bank every child could have a different father, thus increasing the diversity, rather than decreasing it. And with controlled selection of the sex of the children, only female children could be born. This would be highly desirable when the ship reached the new world, since it would permit far more rapid expansion into a suitable population strength than would be possible with a mixed group.

There is a possibility that no "living" human being at all would be aboard such starships. Recent work has shown the way toward a far better way of handling things. Eels can be quick-frozen and then dehydrated. Once the water is removed from the tissues, freezing is no longer necessary. The dessicated eel can be kept on a shelf for long periods at ordinary temperatures. When reconstituted with water, the eel returns to life and swims away quite happily. And there is no discernible aging during the shelf life! This would greatly reduce the weight of the crew, remove the need for food and living equipment and space, and permit greater acceleration for a shorter trip.

All that would be needed, then, would be a very few people to revive the passengers, or automatic machinery to care for this phase.

The choice of an all-woman passenger list would still be the inevitable one; once the landing is made, the use of spermatazoa in storage would still enable a far faster population increase than any other system; and such a population increase is the best assurance for success during the

early settling of a planet. These would be picked women, chosen for their ability to stand the tough life of colonizing a world—chosen to breed true by a careful scrutiny of several past generations! They wouldn't be average women, but ones perfectly capable of doing both a man's job and a woman's. And they would have existed as a purely female society for several generations! Men would probably be a necessary evil at first.

And that's where polygamy, in the usual sense of many women for one man, would come into the picture.

Most certainly, those women would be pretty careful to see that their female society was never seriously threatened by too many men. And they'd have no need to breed many males, since they would be conditioned to self-sufficiency except for offspring. They would probably regard both monogamy, polyandry, and sexual equality as the unspeakable abominations.

I'm not sure that anyone can extrapolate such a society properly. But whatever the supposed joys of polygamy for men, that's one type I would keep far away from!

THE END

very small *very fine*

By HENRY SLESAR

*Will even the Dread Moment
have its satisfaction for some?*

A WHOLE CARNY can wake up in a bad temper. One rain-swept night and misty morning can do it, the tent flaps muddied along the bottom edges, the ground black and sodden along the midway. But Mr. Inch, the midget, greeted every day with a scowl, rain or shine, good or bad, his tiny face puckered and shriveled by a lifetime of angry grimace, the mouth a twisted bitter underline to his inconsequential nose. When Saturday dawned, a foul, muggy, leaden Saturday, promising a tragic beginning to the carnival's run, he got out of the miniature bed in the trailer and found no coffee in the vacuum can. He hurled the empty

tin at the sleeping figure of his pregnant wife, Violetta. Eight months ago, when they had been married, he had woken her with a kiss.

"You shrimp rat," she moaned, hiding her face in the pillow. Her face was the size and texture of a white chrysanthemum. She was a gentle creature, who never resented being born into a six-foot world, but she found her husband's tantrums trying.

"I'm going out," he grumbled at her. "Maybe I can get a decent cup of coffee someplace."

"From the Biggies?" she said mockingly.

"Yes, from the Biggies! The damn Biggies!"

He stormed out of the trailer, a small violent squall. He hated asking anything of the Biggies, the normal-sized members of the carny troupe. He had begun life hating the Biggies, and would end life hating the Biggie priest who would put pennies on his eyes. He went for a walk on the muddy terrain that had been chosen as a carnival site, his small hands thrust into his small pockets, his small eyes bright with undirected anger at the large, unfriendly world.

"Hey, shrimp," a voice said behind him. He turned and saw Lazlo, the strong man. He spat on the ground, and Lazlo laughed. "What's the matter, shrimp? You don't look happy today. Rain got you down?"

"Better get inside," Mr. Inch snarled. "The rain might melt that butter brain of yours, Lazlo."

"You want a piggy-back, shrimp?" Lazlo chuckled. "You want to go for a ride, little man?"

The tired, tired jest never failed its purpose. Mr. Inch shrieked and hurled himself at the strong man. Lazlo guffawed, and held him off with one enormous paw. Mr. Inch flailed the air wildly, never reaching the brutish chin. Then Lazlo pushed him away, and went up the steps of the trailer, still chortling.

Mr. Inch screamed hatred at him until his cries brought Piney, the carny owner, out of his office. Piney as usual, exuded strong wine fumes, but his face was sober and frowning. "Cut it out," he growled. "Cut it out, will ya? Half the folks are still asleep. What's the matter with you, Inch?"

"Me? Me?" Mr. Inch said indignantly. "Nothing the matter with me, you big cheese. You big piece of dung."

"All right now, cut that out. I'm sick of you and your grudges, Inch, so cut it out. You're gettin' to be a real trouble-maker, you know that?"

"Why do you blame me?" Mr. Inch whined. "Why don't you blame Lazlo? Or the rest of 'em? Why do you always pick on me? Because I'm *small*? Is that it?"

"I wouldn't care if you were ten feet ten. Now get back to your trailer or I'll fine you."

"I don't want to go back," Mr. Inch said, drawing himself up. "I was going someplace."

"Where?"

"To see Curtin. That's where. I was just going to see my *friend*, Curtin."

"Friend? That's a laugh." Piney had lost interest in the argument; it was too familiar. He waved a thick hand at the mid-geet, and plodded back to his office. "Go on, go on," he said. "Do what you want."

Mr. Inch smiled grimly, and headed for Tim Curtin's diggings.

The faded letters on the trailer side read: BURIED ALIVE! In the misty rain, the yellow capitals appeared green and bilious. Mr. Inch rapped on the door, and when Tim Curtin opened it, the midget sniffed at the heavy aroma of brewing coffee. Curtin was a Biggie blackard like the rest of them, but he made good coffee and was free with it. He was a red-necked, slow-witted fellow with squinting eyes, and he made a great thing of his Irish congeniality. But Mr. Inch knew the limits of Curtin's good will: it ended at the five-foot-mark. He was a Biggie, and weren't all Biggies the same?"

"Well," Curtin smiled, showing teeth as yellow-green as his billboard. "You're just in time, Inch. Just put on a nice big pot of coffee."

"Thanks," Mr. Inch said, between clenched teth. "You're a real pal, Tim."

"Always got a cup of coffee for a friend," Curtin said. "You don't mind using a—" He picked up a normal-sized mug, and Mr. Inch growled and snatched it from his hand. "No, of course not," Curtin laughed. "You like a lot of coffee, don't you, Inch?"

When the steaming cup was in his hands, Mr. Inch tried to pay for it with conversation. He

asked about the Exhibit, the leaden tomb into which Tim Curtin lowered himself at the beginning of every carnival, remaining there as long as three and four weeks for the edification of the yokels, surviving on piped-in air and stored food and drink. It wasn't a terribly popular sideshow, but there were always a few visitors willing to part with a quarter to see a man in a lead box, hoping, perhaps, that they would witness his sudden suffocating death. Curtin grumbled about the Exhibit, as he always did; he was thinking about a new act, as he always was, something clean and above ground, something that would better his way of life. Mr. Inch listened with solemn sympathy, not hearing, and not caring. Why should he care about a Biggie's problems?

He stayed in Curtin's trailer for half an hour, and then returned to Violetta. She was up and dressed, in a longish maternity robe she had sewn for herself. Her eyes were red-rimmed, but her voice gave no sign of past or present tears. She had borrowed a can of coffee from a neighbor, and the pot was bubbling on the heating unit. Mr. Inch was moved to sudden compassion, and he put his arms about her expanded waist. Forgiving, she held him close.

"You're very small," he whispered to her. "Very small, very fine."

He went outside again at ten, and watched the inevitable stray dogs and children snooping hopefully around the carny site. The sky was still leaden, but a surprising glow appeared over the east horizon. The sudden appearance of what might be sunlight filled his tiny body with a rising emotion he couldn't name. "Oh, you damn Biggies," he muttered, tears filling his eyes. "Oh, you goddamn Biggies," Mr. Inch said. The horizon glow vanished for a moment, and then reappeared, brighter then before. But now there were two of them, and for a while, he thought he was witnessing some heat phenomenon, some electrical trick of nature. The rattling, rumbling sound came later, shaking the earth under his feet, making the carny trailers jump and squeak and bounce in the mud. The carny folk started coming out then, their faces baffled, and when the third burst of light came from the south, they began to run, crying, scrambling, panicked, afraid. Mr. Inch couldn't understand why, not even when the fourth light-burst, more brilliant and noisier than the others, came from the north, when the women began screaming and the men shouting, and the dogs barked and yipped and ran with

lowered tails for a safety zone they could no longer find. The air was filled with sound, human and inhuman, and overriding all was the crackling, thunderous ovation from the clouds. The sky was black now, black and churning, and the rain was like dripping mud, and it was then that Mr. Inch knew that nature, the nature he knew and understood, wasn't responsible for what was happening in the sky that morning. He turned and went back into the trailer and found Violetta on the floor, clutching her swollen stomach with one hand and the cot with the other, looking pitiful and helpless as a child. He yelled at her, but she didn't seem to hear him, and the trailer jolted and shook, the dishes falling from the shelves. He grabbed her arm and pulled her to the doorway; she fought him for a while, and then succumbed, sobbing. He pushed her down the steps and into the street, leading her away from the clatter and demolition that was taking place inside their tiny house on wheels. They ran aimlessly together, until Mr. Inch saw Tim Curtin wandering around like a madman, whimpering with fright and indecision. He shouted to Curtin, but the big man didn't hear. Then he remembered about the Buried Alive exhibit, and the thought of the shelter it would afford triggered hope in his

small body. He dragged Violetta towards it, but when she saw what he wanted her to do, she pulled away from him and shook her head violently. He persisted, until she had no choice, allowing him to lower her the five feet into the leaden coffin below the ground, and then followed her.

They were in the tomb for almost three days, until the sky overhead seemed less threatening, and the sounds above them

had stilled. Only then did Mr. Inch emerge, cautiously, to learn that all living things had been erased from the world. Only then did he realize the great, wonderful truth of the cataclysm, and he laughed until Violetta cried in fear and hugged her swollen belly as he tried to tell her of the magnificent gift from the Gods, the gift that had made the earth the inheritance of not the meek, but the very small.

THE END

COMING NEXT MONTH

A hard-nosed old-time sf narrative by J. F. Bone *A Question of Courage* is the cover story for the December issue of **AMAZING**.



Along with it will be the second installment of **Dr. Sam McClatchie's** *The Last Vial*, and another Lester Del Rey fact article, this one dealing with the potentially disastrous effects of high frequency radiation on human nerve energy levels.

And, as a special bonus, the December issue will inaugurate a new policy long demanded by many of our readers—reprints of classic stories from **AMAZINGs** of 20 to 30 years ago. Each issue of **AMAZING** will contain one of these reprints, selected and introduced by Sam Moskowitz, the sf historian. Next month: *The Lost Machine*, by John Wyndham, first published in April, 1932—one of the earliest stories by a man who is now considered one of the field's greatest authors.

The December AMAZING will be at your newsdealer on Nov. 10.



and some were savages

By JAMES BLISH

ILLUSTRATED BY EMSH

*In the deep violet light of an alien world,
the savages rode 'round and 'round, their
deadly bows and arrows aimed at the space
gig Conestoga. On the ground, the members
of the rescue team were unaware of the su-
preme irony of the situation. All except one.*

THE French, as it well known can cook, and so can the Italians, who taught them how. The Germans can cook, and so can the Scandinavians, and the Dutch. Greek cooking is good if you like chervil, and Armenian if you can endure lamb-fat and honey; Spanish cooking is excellent if your Spaniard can find something to cook, and the same goes for most Asiatic cuisines; and so on, thank goodness.

The cook aboard the UNSS

Brock Chisholm, though, was an Englishman. He boiled everything. Sometimes for chow you got the things themselves, deeply jacketed in mosquito netting; and sometimes instead you got the steam condensed off them, garnished with scraps of limp lettuce which had turned black with age. The latter was sometimes called soup, and sometimes called tea.

This is just one of the hazards—one of the more usual ones—of

interstellar pioneering; and though I've heard that things have gotten a little softer in recent years, I can't say that I've seen any signs of it. Even aboard the *Chisholm*, I was sometimes accused of making a god of my stomach, even by Capt. Motlow; which was plainly unfair, considering the quantities of steamed-shoes-in-muslin which I'd gnawed at without complaint during the first few months of the trip.

All the same, I did my best to stay on my dignity, as is expected of every officer and gentleman commissioned by act of the General Assembly.

"An army marches on its stomach," I pointed out, "and I'm supposed to be a fighting man. I don't mind servicing my own arms, or that my batman doesn't seem to know how to press a uniform, or even having to babysit Dr. Roche. All that's part of the normal grab-bag you get in the field. But—"

"Yah-huh," Capt. Motlow said. He was a tall narrow man, and except for his battleship prow of a chin looked as though he were leather himself. "You're also supposed to be an astrogator, Hans. Get your mind off sauerbraten and onto the problem at hand, will you?"

I looked at the planet on the screens and made a slight correction for the third moon—a tiny,

jagged mass of dense rock with a retrograde movement and high eccentricity, very hard to allow for without longer observation time than we'd had up to now. Inevitably, it reminded me of something.

"I've got the problem in hand," I said stiffly, pointing to the tab board showing my figures in glowing characters. He swivelled around in his chair to look up at them. "And don't think it was easy. How long is the *Chisholm* going to last with an astrogator who hasn't had any B vitamins since he left Earth, except what I wangled out of Doc Bixby's stores? Astrogation demands steady nerves—and that hunk of rock we had last night for dinner was no more a sauerbraten than I am."

"Don't tempt me, Lieutenant Pfeiffer," Capt. Motlow said. "We may hit cannibalism enough down below. If you're damn sure we can put the *Chisholm* into this orbit, we'll go have our meeting with Dr. Roche. Between meals, we've got work to do."

"Certainly I'm sure," I said. Motlow nodded and turned back to push the "do-so" button. The figures vanished from the tab board into the banks, and for a while the *Chisholm* groaned and heaved as she was pushed into the orbit around our goal. That's one thing I can say for Motlow: when I told him the figures were

right, he trusted me. He never had any reason to be sorry for it, and neither has any other captain.

All the same, he's also far from the only captain to give me the impression that field-commissioned officers *like* boiled shoes.

Dr. Armand Roche was another of my crosses aboard the *Chisholm*, but also so ordinary a feature of any UNRRA crash-rescue mission in deep space that I could hardly complain about him. Crash rescue, after all, is a general cross mankind bears—and may have to bear for some centuries yet—in payment for the poor forethought the first interstellar explorers exercised in the practice of a science called gnotobiosis.

Maybe they couldn't be blamed for that, since they had never heard of the term. It is the science of living a totally germ-free life; in other words, the most extreme form of sanitation and public health imaginable. In the first days of space travel, nobody suspected that it would eventually have to come to that. The builders of the first unmanned rockets did think to sterilize their missiles as best they could, and in fact the proposition that it would be unwise (and scientifically confusing) to contaminate other planets with Earthly life was embodied in

several international agreements. But nobody thought of man himself as a contaminant until far too late.

"There were a few harbingers," Dr. Roche was telling the quiet group in the officers' mess. He was a smallish, bland-faced, rumped man, but he spoke with considerable passion when he saw any occasion to. "In fact the very term 'gnotobiosis' goes back to the March 1959 issue of the *World Medical Journal*—one of the many important ideas the UN was spawning hand over fist in those days, to the total indifference of the world at large. Even then, somebody saw that the responsibility for introducing the TB germ, the rabies virus, the anthrax spore, the encephalitis virus to a virgin planet would be very heavy."

"I don't see why," said Sgt. Lea, the blond, loose-jointed Marine squad leader. "Everybody knows that human beings couldn't possibly catch an alien disease, or aliens catch a human one. Their body chemistries are too different."

"That's one of those things that 'everybody knows' that's wrong," Dr. Roche said, "and I see by your expression that you're quite aware of it; thanks for the leading question. I chose my examples specifically to cover that point. All the diseases I mentioned are zoonoses—that is, dis-

eases which circulate very freely between many different types of creatures, even on Earth. Rabies will attack virtually every kind of warm-blooded animal, and pass from one phylum to another at a scratch. Most serious parasitic diseases, like bilharzia or malaria, are transmitted through phyla very remote from man—snails, armadillos, kissing bugs, goats, you name the critter and I'll pop up with a zoonosis to go with it. Diseases of man are caused by bacteria, fungi, protozoa, viruses, worms, fish, flowering plants and so on. And diseases of these creatures are caused by man."

"I never heard of a man making a plant sick," said a very young Marine private named Oberholzer.

"Then you have never met a mimosa, to name only one of a whole catalogue of examples. And even micro-organisms harmless on Earth might well prove dangerous on other soil, or in other races—which in fact is what *has* happened over and over again, and why we are in orbit around this planet now."

"We gave them measles?"

"Not funny," Dr. Roche said. "European explorers introduced measles into the Polynesian Islands, which had never known it before, and it turned out to be a massively fatal disease—for a non-immune population of

adults. Columbus' expedition was probably the importer of syphilis from the West Indies into Europe, and for two centuries thereafter it cut Europeans down as rapidly and surely as gangrene; its later, chronic form didn't become characteristic of the disease until the antibodies against the organism were circulating through the population of Europe as a whole. It's possible that only one single man in Columbus' fleet was responsible for that vast epidemic mortality, and for the many additional centuries of suffering and loss and disgrace that followed before cures were found. It's a hideous kind of risk to take, but the first interstellar explorers, who should have known better, also took it—and the price is still being paid. This expedition of ours is part of that price."

"So if I sneeze on patrol," Oberholzer said, "I get KP?"

Lea glared at him. "No," he said, "you get shot. Shaddup and listen."

Lea's pique was understandable. His leading question had been designed to remind Oberholzer and any other green hands like him that we all, Dr. Roche included, had been brought up on birth-farms, and so give Roche just the opening he needed to abort such a line of questioning as Oberholzer was following.

The sergeant did not take kindly to the failure of his rudimentary essay into dialectics.

Roche, however, explained patiently. The Earth had not been sterilized yet, and probably never would be; even now, nobody really warmed to the idea of disrupting the grand ecology of the whole home planet, simply for the protection of worlds and races many light-years away, or even still undiscovered. But the intermediate step was a fact, as Roche should not have needed to point out.

For instance, there was not a pig in any herd on Earth any more, nor had there been for centuries, who was not certified to be specific-pathogen-free, by virtue of having been born along with the rest of his litter by radical hysterectomy and raised on the bottle. And there was not a man aboard the *Chisholm*, or anywhere else in space today, who had not been from his mother's womb untimely ripp'd into a totally germ-free environment—which he still carried inside his body, and which still carried him in his ship.

On the other hand, maybe I was expecting too much of a private of Marines on his first crash-rescue mission (or for all I knew, his first mission of any kind). As I've noted, the astrogator is traditionally one of the two officers on a crash-rescue ship who are as-

signed to provide intellectual companionship to the UNRRA civilian in charge, the other being the ship's surgeon. The assumption behind the tradition seems to be that any other Giant Brains who might be aboard would be too busy. Well there was some justice in that, for while an astrogator is very busy indeed when he's busy at all, it's in the nature of the job to be concentrated at the opposite ends of a trip, leaving a long dead space in between. I get a lot of reading done that way: poetry, mostly. And doctoring, of course, is a notoriously off-again-on-again proposition, especially with a population as small as a ship's crew to look after, and nary a germ anywhere aboard (ideally, at least).

Hence though I had never heard Roche's speech before, I had heard many like it. Up to this point I could have given it myself, and probably played a fair game of chess at the same time. Now, however, he was getting to the part that only he could testify to: the nature of the *specific* situation beneath us on this mission.

"The first explorers who landed here called the planet Savannah, though maybe 'tundra' or 'veldt' would have been more suitable," he was saying. "It's a dense, high gravity world about seven thousand miles in diame-

ter. It consists mostly of broad grassy plains, broken here and there by volcanic ranges, and some rather small oceans.

"However, they didn't explore it thoroughly, for reasons I'll get to in a moment. They made contact with the natives very early, and described them as savages, but friendly. No xenologist would agree that they're savages, not from the descriptions we have. They are hunters primarily, but they also herd, and raise crops. They weave, and build boats, and navigate by the stars. They are also metal-workers, technically very ingenious, but limited by the fact that they lack the energy sources to do really large scale, high temperature smelting and forging, thus far.

"They have a family system, and a system of small nations or family tribes, and a certain amount of internecine warfare in bad years. Both of these facts contributed to the downfall of the first expedition to Savannah. The Earthman inadvertently infected these initially friendly people with a very common-Earthly disease which turned out to be virulently deadly to the males of the native population. The females are not immune, but are naturally far more resistant.

"This plague played hob with the native families, and this in turn began to threaten old alliances and balances of power

between the tribes, as well as the division of labor within the tribes themselves. The natives were quick to associate it with their strange visitors, and one night, without the slightest warning, they attacked the landing camp. Very few of the landing party got away alive—and there were no wounded among them."

"Poisoned darts?" Sgt. Lea said interestedly.

"No," Dr. Roche returned grimly. "Quarrels."

Lea looked puzzled.

"Those are crossbow bolts," Roche explained. "In this case, heavy metal ones, launched with such high velocity that they can kill a man no matter where they hit him, through shock alone. I bring this up so you'll know in advance that full battle dress is going to be of dubious value at best. We are going to have to plan in such a way that nobody gets hit—and *without* killing or injuring so much as one native. Just how we're going to manage that, I'll have to leave up to you."

Lea shrugged. He was used to being handed the hard ones.

"All right. Now what we *want* to do isn't quite as complicated. We need to capture a number of natives with status among their fellows—warriors will doubtless do; learn more of their language; win their confidence; and explain to them that we have a

cure. And we will have to convince them that they must abandon their first natural desire, which will be to give the anti-virus to their sick warriors and kings. The stuff won't work with them; they're doomed. Instead, it will have to be given to expectant mothers, exclusively."

"That's going to take a lot of convincing," Capt. Motlow said.

"Agreed. But that's one of the main reasons why I'm here. Nor is that all. There's a time limit. Unlike human beings, the natives here have a fixed mating season, so all their babies go to term at once, practically speaking. We got here as fast as we could once we learned the story, but we are right on the edge of the whelping season now. If we don't get most of this generation of pregnant females injected—for which native help is imperative, we haven't the manpower to do it ourselves—the race will be wiped out. The male children will die in infancy, and that will be that.

"That's all I know about the situation, and all anybody knows. So I have to conclude: Gentlemen, you must take it from there."

A stocky middle-aged man with completely white hair—Clyde Bixby, the ship's surgeon—raised his hand. "One fact I think you skipped, Doctor," he said. "And I think it's interesting

in this context. Why not tell the assembled company what the plague was?"

"Oh. Sure," Dr. Roche said. "It was tobacco mosaic."

Nobody but Doc Bixby seemed to believe him at first, and after all, Bixby had already had the benefit of the explanation—or as much of it as Dr. Roche knew. But a lot of them ground out their cigarettes like they were crushing poisonous snakes, all the same. Roche grinned.

"Don't worry," he said. "One reason tobacco mosaic is so abundant on Earth is because it's harmless to humans. And as far as tobacco growers are concerned, it can be controlled in the fields—not cured, but controlled—by streptomycin spraying."

"A curious thing in itself," Doc Bixby put in. "Streptomycin is no good at all against any other virus."

"Well, it's no more than indifferently good against mosaic, either," Dr. Roche emphasized. "But that's not important now. The point is: For the tobacco plant, mosaic is one of the most highly infectious diseases man has ever studied. The virus isn't a tiny but relatively complex organism, as most viruses that attack man and other animals are. Instead, it's a simple chemical

compound. You can prepare it in crystal form as easily as you'd make rock salt or rock candy. It isn't alive, not until it gets into the plant cell; the life it leads thereafter is entirely 'borrowed' from the host. And it's simple enough chemically so that most reagents—physical or chemical—don't destroy its integrity.

"The result is that if you walk into a greenhouse where tobacco is growing, and you're smoking a cigarette which was made from the leaf of a plant that had had mosaic, most of the growing plants will come down with the disease. They literally contract it from the smoke. And that seems to be exactly what the Savannahans did. They picked it up from cigarettes the first explorers offered them."

"As a peace-pipe, maybe?" Bixby speculated.

"Maybe. If so, it's a great fat example of what a mess you can make by pushing an analogy too far."

"But why were they susceptible in the first place?" I asked.

Roche spread his hands. "God knows, Hans. It's just lucky for them that we know how the virus operates. It heads right for the chromosomes during cell division, and alters a set of genes in such a way that the daughter cells become susceptible to the disease in its overt or 'clinical' phase. That's why it kills off the

offspring so much faster than it does the adult generation: because cell division goes on so much faster in infants."

"It sure does," Doc Bixby said. "In humans, the average is ten complete replacements of all the cells in the body per lifetime—and eight of those take place between conception and the age of two."

"Well, we can denature this virus relatively simply," Dr. Roche said. "Lucky for the Savannahans that we can—if *we can do it in time*. I think we'd better get down to business."

Sgt. Lea's expression, which had begun to look like that of an insecurely tethered balloon, turned flinty with an almost audible clink.

We came down on Savannah that night in the ship's gig, it being impossible to land the *Chisholm* on this planet or any planet. I was aboard, because it was part of my job to pilot the cranky, graceless, ungrateful landing craft. Furthermore, I had to fly her in complete blackness over terrain I knew only in vaguely general terms; and I was under orders to land her silently, which is almost impossible to do with a vessel driven solely by two rockets (for space) and two ram-jets (for air).

Sure, I wasn't going to use the rockets for landing, and I could

cut the athodydes; but when I did that the gig dropped like a skimming stone. Though she was primarily an aircraft, she had very little lifting area, and could be said to glide only by courtesy (which certainly would be extended only by somebody watching her safely through binoculars).

Nevertheless I gave it a brave try. I wrestled her through the blackness to what seemed by the instruments to be about fifty feet above the expanse of veldt Sgt. Lea had chosen. Then I poured on enough throttle to get her well beyond aerodynamic flying speed, and cut her out, hoping to edge her still lower to the ground before she stalled out.

It worked, but it was rough. We were closer to the ground than I'd estimated, so we stalled out from what must have been no more than a few inches. Engines or no engines, it was *not* quiet—we could hear the screech of wet grass bursting into steam under the skids, right through both layers of hull.

I never touched the brakes. I didn't want us to come to a stop until we were as far away as possible from the echoes of that scream. I hate hot landings. By the time the gig actually lurched to a stop, we were twenty miles away from where we'd planned to be, and every face on board was livid—mine most of all.

I don't mind being a pioneer, exactly, but I hope some day they'll give me a softer horse. I wasn't aware of having said so aloud, but I must have, for behind me Sgt. Lea said sourly:

"The next time I have to land on a high-gravity planet, I hope they give *me* a thinner pilot."

I maintained a dignified, commissioned-officer's silence. Shortly I heard the faint rattle of gear behind me as the Marines unstrapped themselves and checked their battle dress. By this time I judged myself to be enough over the shakes to risk checking my own suit, helmet, air supply and flamer, and then the critical little device which was to be the trigger of our trap—if the trap worked. The trigger seemed to be in good order, and so did the relay assembly on my control board which was supposed to respond to it. It was Lea's job to make sure that the answering action was appropriate, and I knew I could trust him for that.

"All right, Lleutenant Pfeiffer?"

"Looks all right. Let's go."

I doused all the lights, sealed myself up, and followed the Marine squad out the airlock and down into the tall grass. I couldn't resist looking up. The sky was a deep violet, in which the stars twinkled like lightning-bugs—the kind of sight you don't often en-

joy in a spaceman's life. I had a notion that if I stayed here long enough to become light-adapted, I might even manage to make out a few of the simpler and more banal constellations. From here, for instance, you ought to be able to make out Orion, and begin to catch distorted hints of the constellation the Sun belongs to from far away, called the Parrot. Only a computer can analyze out constellations in space; the eye can see nothing but the always visible stars, clouds and clouds of them, glaring and motionless. . . .

However, I had better sense than to daydream long on office time. I set the airlock to cycling, and touched my helmet to the closed outer seal to listen for the muted groan of the flammers. It came through right on time, a noise halfway between a low bull-fiddle note and that of a motor trying to start. Satisfied, more or less, I plodded away through the extremely tall grass.

It was lonely here. My radar sweeper kept me posted on where the gig was, and where I was supposed to go from there; but I was not going to have any company, because I was to be only one unit of a very wide circle, and the Marines were already fanning out and away from me to take up their own posts on that perimeter.

Possibly I was already being stalked, too. If so, the radar would never let me know about it, as long as the stalker kept himself bent low in the sea of grass. Above, the violet sky arched and burned. It was moonless, we had been careful enough about our timing to insure that; but there were no clouds, either. If the natives had sharp eyes, as hunters had to have, they might well see the glints of starlight on my helmet, or even on the shoulders of my suit. And I was very aware of my weight. Every step was elephantine. I had to admit to the alien night that I was not really in very good shape for a fighting man, hard though I tried to blame it all on the 1.8 Gee field.

And my flamer was locked to my suit. We were under no circumstances to use them to defend ourselves, and couldn't have gotten them unlocked in time to disobey the order. They were only for afterwards, in case the flaming circuit inside the airlock had been knocked out for some reason. As weapons, they were as useless tonight as a tightly laced boot.

After at least a thousand million increasingly ponderous, sweating steps, the PPI scope told me I had walked out the prescribed two-and-a-half miles. I switched to re-broadcast, and got the picture as the gig saw it.

My set had a few pips that might have been Marines, but it was impossible for my suit sweeper to see all around the circle. On repeat from the gig, the scope showed several men still coming into line on the far side, which gratified me for no reason I could pin down.

They straggled in, and then each pip in the circle turned red, one by one, showing me that they too were now getting the rebroadcast and hence were aware of where all the rest of us were. I ran a nose-count: . . . ten, eleven, and twelve counting me. Okay.

So far, no sign of savages. But they too were present and accounted for. The radar didn't show them, and neither by eye nor by sniperscope could I see anything more than the night and the waves going over the grass. But Dr. Roche had assured us that they would be there—and games theory penetrates the strategic night far better than any sensing instrument, alive or dead.

I cut out of the rebroadcast and cut in again, making my own pip blink green for a moment. At once, all eleven other pips went green and stayed that way. They had seen the warning.

It was time for human vision.

I snapped shut the lock-switch on my little device. The gig came glaring into blue-white, almost intolerable existence in the mid-

dle of our circle. A triplet of star-shells stitched across the sky above her. I could almost read the hateful legend on her side.

And there were the savages.

For those crucial three seconds they sat transfixed on their six-legged mounts, knees clenched across pommels, disproportionately long spines stiff, long bald heads thrown back, staring up at the star-shells. The hairy, brown, cruelly-beaked creatures they were sitting on stared too, stretching out necks as long as those of camels.

There were four of them inside my part of the circle. One was so near that I could even see that his skin, though bright yellow-red predominantly, had a faint greenish cast. He was barefoot, but he was wearing rough cloth, and a metallic belt with clear shadowings of totemistic designs worked into it.

Of course I can't vouch for the veracity of the colors I saw. Star-shell light is lurid and chemical; and I had been in darkness a long time before it burst over all this. But the colors, true or not, were vivid after long blackness.

I also saw the crossbow, loaded and cocked; and the quiver full of quarrels. If he were to turn and see me, hardly ten yards away from him, and as rooted to the ground as a melting snowman—

But the shells dimmed and fell, leaving behind rapidly fading trails which twisted and flowed almost horizontally into the jet-stream aloft before they vanished. Precisely three seconds later, all the gig's searchlights went on, right here on the ground.

The long, rounded heads snapped down. At the same time the beasts screamed and leapt so high that they seemed all at once to be flying.

They charged the gig without a moment's hesitation. They were a wild and impossibly moving sight. At a full gallop the llama-like hexapods seemed to soar over the grass almost all the way, passing above the veldt in long graceful undulations like flurries of night wind. The savages bestrode them easily, just over the beasts' middle pelvis, high-stirrured but without reins and indeed far too far from the slashing screaming heads to make reins even possible—rode so easily that in silhouette, savage and beast flowed into one teratological myth, like Siamese-twin centaurs. The front horse-and-head was for leaping and screaming. The back one, merged with it, was for winding and firing the arblast. The leaping was beautiful; the screaming was fearful—and the bowmen didn't miss.

One of the port lights went

out, and then the other. For a few seconds I could see the two farthest riders on my side in the glow of one of the starboard lamps, and then that was gone too. They had a little more trouble with the sweep searchlight atop the gig, which was just forward of the vertical stabilizer and slightly protected both by its motion and by the curve of the fuselage. But they got it, and they got it the hard way: they shot at its junction with the hull every time it looked away from one or another of them, and after that had jammed it to a standstill, one more quarrel at point-blank range blinded it for good.

Blackness. Worse than blackness, for it was swimming with amoeboid purple after-images.

I stood where I was, certain that by now I had sunk into the soil almost up to my waist. After I thought I might be able to see the PPI scope again. I tried to get a re-broadcast from the gig, though I was pretty sure most of the savages would now be protected from that kind of spotting by being in the lee of the hull. But as it turned out, I didn't even get a scanning sweep. Evidently they had shot off the antennae, too, the instant they had gotten close enough to see that they rotated. If it moves, shoot it!

So I waited. There was nothing else to do. Roche had been right thus far, in general at least

and so the next step was to be dictated strictly by the clock. After the fury and beauty of the attack, this second wait seemed to go on forever. I have been in ground battles before, battles in which I was in more danger and had more to do, battles in which I had to defend myself, and did; but I have never seen anything like that attack on Savannah, and never hope to again.

Inside one of the purple splotches, I saw the word CONESTOGA in wavering white letters. It made me grind my teeth. As Roche had said, there was such a thing as pushing an analogy too far. But the worst of it was, nobody on *this* mission had so pushed it. It had just been somebody else's feeble joke—and it turned out to be horribly, entirely appropriate.

My clock went out. Time to start slogging back. It took an eternity, but at least I gradually got back my sight of the stars. At half a mile away from the gig, I reluctantly had to give that up again. I touched the gadget, and the gig responded with a fourth star-shell.

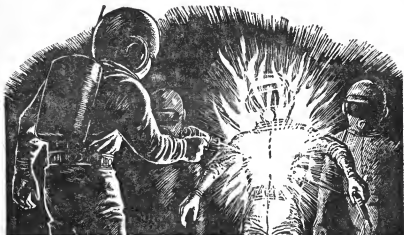
Most of the beasts were loose and grazing. There were two savages on guard outside the gig, holding their mounts, one at her needle nose, the other by the airlock. At this distance Sgt. Lea's men had no trouble gassing them

both. When I touched the gadget still a third time, the gig let loose with a twenty-decibel, wavering honk which catapulted the remaining hexapods for the horizon as though they had never been domesticated at all. I resented it, a little. Dammit, couldn't Roche have been a *little* bit wrong?

But he wasn't, not then. The other six savages were inside the gig, as soundly gassed at my signal as their two guards had been by the Marines' grenades. They had been wrecking things, but hadn't had time to get past the fragile, hyperactive dummies Roche had had us set up for them to wreck. Nor had they gotten beyond the dummy chamber into the sterile areas of the ship, where the business is conducted. We stacked them right there according to directions and sealed them in. Then we flamed each other off and sealed ourselves in.

It didn't do us much good. There were no less than sixty-four cross-bow-bolt heads sticking through the inner wall of the gig. Not one savage could have missed it more than twice. We seared them off and slapped patches over the remains of the holes, but we had to go back to the *Chisholm* inside our suits. The gig was airtight again; but gnotobiotically, she had been breached, and thoroughly.

Roche had her destroyed, except for the dummy chamber



where the sleeping savages were, before he would let any one of us back into the *Chisholm* and again, I think he had planned all along to do exactly that. It was all right with me; I hated the CONESTOGA. The trouble is, I can't forget her—or rather, I can't forget her name. It's stupid to have the memory of a great affair marred by something so small—like the food, Capt. Motlow would say—but I can't help that. It's the way I remember it.

Besides, it wasn't so small, after all.

We had lost all the rest of the night sealing up the holes the arrows had made, and damned near didn't make rendezvous at all; but Roche didn't seem to worry about that. When we had finally been flamed and destroyed clean enough to satisfy

him, and Lea and I were let into the control cabin of the *Chris-holm*, he barely groused at us at all. He was watching the films—not for the first time even this soon, I could see—and he looked sick. Capt. Motlow was transparently puzzled, and also annoyed. Both of them were too busy to speak to us, which made me furious, and made Lea look more and more like the front side of the Mountains of Mitchell on Mars before the cap thaws.

"There is something about this situation that's all wrong," Dr. Roche said at last, mostly to himself. "And yet I can't quite put my finger on it."

"Everything was on schedule," Lea said shortly. I gathered that he felt he was being criticized.

"Yes, yes, it's not that. They responded to the stimuli exactly as you'd expect people in his

kind of a culture to do. The games equations fail only when you haven't enough data about the enemy to fill in the parameters."

Sgt. Lea wore the expression of a Marine who suspects, quite rightly, that his own role in the action was being dismissed as also just part of the equations. Roche didn't notice.

"No, this isn't a question of behavior. At least, I don't think it is. The trouble is, I don't know what it is a question of." He turned away from the screen as Bixby came in. "Ah. You were watching the action. Did you notice anything—peculiar? Would you like to see the films?"

"No," Doc Bixby said. He too was wearing a very odd expression. "I know what you're talking about, and I know the answer, too. I've just been examining the patients. They're conscious and in good shape, so whenever you're ready to talk to them—"

"I'm ready now," Roche said, getting up. "But I'd better know what it is I'm missing. Please explain."

"It's a question of evolution," Doc Bixby said. "By what possible course of selection and mutation can a four-limbed vertebrate occupy the same planet as a six-legged one?"

Roche was stunned. He drew a long, slow breath.

"That's it," he said finally.

"That's what I am looking at that threw me. I was looking at it, but I wasn't seeing it. The long torsos! They've got vestigial middle limbs folded under their clothing! Is that it?"

"Yes," Doc Bixby said. "Only they aren't vestigial. They're functional."

"Interesting. Well, I'm glad that's cleared up—I was afraid it was going to turn out to be something that made a difference."

"It does," Doc Bixby said. His expression was still very strange. Roche shot him a quick glance and hurried out toward the recovery room. Lea and the surgeon followed.

I stayed where I was for a while. I had to set up a departure orbit sooner or later, and it might as well be now. It would keep me occupied during the dry period of the interviewing, while Roche was perfecting his command of the language. Current heuristics can get a man through a language in about eight hours, but it's a deadly technical process, an ordeal to the student and absolutely unendurable to the bystander.

Capt. Motlow watched my admittedly unusual display of forehandedness with considerable suspicion, but for once I didn't care. Doc Bixby's discovery may have resolved what had been bothering Dr. Roche—though

from Bixby's expression it looked like Roche was due another discombobulation sooner or later—but it hadn't gotten past what was bothering me. That was the CONESTOGA business, of course.

As I have mentioned, the name came about by an accident unrelated to the Savannah affair. Ship's boats ordinarily aren't named at all, unless they bear the name of the parent ship. But when the *Chisholm* was on her shakedown cruise, some junior officer had made a joke about "hitting the Chisholm Trail"; and somebody else had remembered that the Conestoga wagon had been a machine with large, broad-rimmed wheels which had been specifically designed to ride well over soft soil.

And that's what a ship's gig is: a vessel designed to ride well in an atmosphere, not in a hard vacuum; it's essentially an airplane, not a spaceship. So they named the gig CONESTOGA; and after a while they got tired of it, as anyone tires of a joke that comes up again every time you look at a commonplace object, and forgot about it. But here it was back again.

Why did this bother me? I couldn't say. Partly, I suppose, because the *Chisholm* herself wasn't named after the Chisholm Trail, but after the first director of the World Medical Association, and perhaps the great-

est. But that wasn't all; there was something else. And like Dr. Roche, I couldn't put my finger on it.

And even if I could, there would be nothing I could do about it. I was only an astrologer—and even if I had been Dr. Roche, the thing I was bothered about was too far in the past to be corrected, even by the theory of games.

So I thought; but like most people, I underestimated the viability of the past, the one thing the poets have been trying to pound into our corporate pinheads since words were invented:

*We learn from words, but
never learn much more than
that from time to time the
same things happen.*

But I wasn't then thinking about *The Folded and the Quiet*; the quotation didn't become attached to the Savannah affair in my mind until long afterward, when I encountered the poem during one of my dead-space reading jags. Now, I didn't really know what was the matter, and so all I could do was to continue to set up the tab board.

I missed the chow whistle, too. Capt. Motlow had to send up an orderly to fetch me.

Dr. Roche's patience was phenomenal, especially when you remembered the pressure of ur-

gency under which he was laboring. Once he was able to talk to his eight charges with some facility, he did try at once to explain the situation to them. But it turned out that they were not in any mood to listen.

Nor could I blame them. After all, they were in the tank, which provided though it was with every need Roche had been able to anticipate, was still utterly unlike any environment they had ever imagined, let alone encountered. As for Dr. Roche himself, he was to them a grossly magnified face on a wall—a face like those of the demons who had brought the plague in the first place, but huge and with a huge disembodied voice to go with it. Roche was careful not to let any of the rest of us—the subsidiary demons—go drifting across the background of the screen, but it seemed to be too late for such precautions. The savages had already decided that they had been taken into the Underworld. They stood silently with their visible pairs of arms folded across their narrow chests, looking with sullen dignity into the face of the arch-demon, waiting for judgment. They would not respond to any question except by giving their names, in a rapid rattle which went right around the circle, always in the same direction:

“Ukimfaa, Mwenzio, Kwa, Jua, Naye, Atakufaa, Kwa, Mvua.”

Dr. Roche spoke briefly, was greeted by more silence, and turned the screen off, mopping his brow. “A stubborn lot,” he said. “I expected it, but—I can’t seem to get through it.”

“Two of them have the same names,” Doc Bixby noted.

“Yes, sure. They’re all related—a clan, which is also a squad. ‘Kwa’ means ‘if-then’; signifies that they’re bound to each other, by blood and duty. That’s the trouble.”

“Do all the other names mean something too?” I asked.

“Yes, of course. Standard for this kind of society. The total makes up the squad, the functional fighting unit. But I don’t have nearly enough data to work out the meanings of the connections. If I did, I could figure out which one of them is senior to the others, and concentrate on him. As it is, all I’m sure of is that neither Kwa can be; that’s obviously a cousin-cousin crossover.”

I almost didn’t ask the next question. After all, I didn’t know the language, and Dr. Roche did. But since he was obviously stumped, I couldn’t see what harm it would do to introduce a little noise into the situation.

“Could it be grammatical? The connection, I mean?”

“What? Certainly not. No culture of this. . . . Uh. Wait a minute. Why did you ask that, Hans?”

"Well, because they always name themselves in the same order. I thought just maybe, if the names all mean something, it might make up a sentence."

Roche bit his lip gently. After a few seconds, he said: "That's true, dammit. It does. It's condensed, though. Wait a minute."

He pulled a pad to him and wrote, very slowly and with the utmost effort; and then stared at what he had written.

"It says: RAINY SEASON/SOMEONE/ HELP/ HIM/ IF-THEN/ DRY SEASON/MAYBE/YOU. By God, it's—"

"The Golden Rule," Doc Bixby said softly. "Games theory: non-zero-sum theorem one."

"More than that. No, not more than that, but more useful to us right now. All these words are related, you see. You can't show that in English, but Savannahian is a highly inflected language; each of these eight words stands in a precise heirarchical relationship to all the other seven. The only grammatically unique word is 'help'; the others are duplicates, either in meaning or in function."

He took a deep breath and snapped the screen back on.

"MWENZIO!" he shouted into the tank.

One of the tall tubular torsos stood abruptly as straight as a ramrod and came forward, the bullet head exalted.

"Mpo-kuseya," the savage cried, and waited.

"What's that mean?" Bixby whispered, off-stage. It was a gross violation of Roche's rules, but Roche himself could not resist whispering back.

"It means: *I cannot fail.*"

The savage and the UNRRA man stared at each other, as intently as though they were face to face, instead of watching images of each other. Then Roche began to speak once more, and now his urgency showed through at last.

I doubt that I could have followed him and Mwenzio even if I'd known the language; but I know now how it went, from the transcripts:

"Warrior, I charge you hear me, for the love of your children who may be kings. We have not come into the world to condemn. We have come to help."

"That is my name, demon."

"Then I bind you by it, for your children's sake."

"I am conquered," Mwenzio said. "Sorcery is sorcery; I bow the head. But my children are not yours to command, nor ever shall be."

"I promise you, in the name of your name, that I seek no such thing. It is the ill that I brought before that I come here to undo. To this I bind myself by my own name."

Both Capt. Motlow and Doc

Bixby stiffened at Roche's assumption of blame for what the first expedition had done, but Roche sensed it at once and drove them back with a slashing gesture, just below the level of the screen. Mwenzio said:

"What may I call you?"

"Mbote." ["Life."]

"Lokuta te?" ["This is no lie?"]

"Lokuta te, Mwenzio."

There was a long silence. Mwenzio stood still, with head bowed. Finally he said:

"Notice me, Mbote, your servant."

"Then it is this. I have told you of the plague and what needs to be done to combat it. Credit me now, for the time is very short. We will release you and all your clan, and you must carry the word to all the tribes and kingdoms. You must persuade your kings and chieftains that those who brought the plague have come back with the cure, but only if all do exactly as we say it must be done. Above all, it must start at once, before the children are born. It would be best if all the mothers in the area where we put you down, all that can reach it by hard riding, should come to us."

"As we have done," Mwenzio said. "But then it is already too late."

"No, it can't be. Not for everyone. If we make haste—"

"No one can make haste backwards," Mwenzio said, and with a quick motion the short arms crossed above the bullet head, pulled the rough shirt up and off, and threw it to the floor of the tank. Without any visible signal, the other seven warriors shucked their shirts too, at the same moment.

In the cradle of each middle pair of arms, held low and flat across each narrow ventrum, six to eight Savannah cubs squirmed over each other in a blind, brainless fury of nursing. They were about the size of chipmunks.

"We are the mothers," the warrior said. "And here are our children. They are already born. If it is not too late, then we give them to you, Mbote; cure them."

Nobody can know everything. The data about the Savannahs which the remains of the first expedition had brought back were reasonably complete—good enough to let Dr. Roche fill the parameters of his equations almost completely. But only almost. The first expedition hadn't been on Savannah long enough before the explosion to find out that the savages were six-limbed, let alone that the women were the warrior caste. As for us, we were culpable too—Doc Bixby most of all, for he had known the essential biologi-

cal facts before Roche did, and had been keeping them to himself for the simple stupid pleasure of seeing Roche's face turn grey when the truth came out. I had felt that impulse myself now and then on Savannah, as I've already confessed, but I never did understand why the surgeon let it drive him—and all of us—so close to the rim of disaster. Roche only irritated me by being so knowing; but Bixby must really have hated him.

Bixby isn't with us any more, so I can't ask questions. Luckily for him, he had a great deal more up his sleeve than a simple surprise; otherwise he might have lost his license, as well as being transferred, when the *Chisholm* got home. He took only a moment or so to savor Dr. Roche's shock and despair, and then said, loud enough for the savages to hear him (though not to understand him, because he said it in English):

"It's all right. The cubs are born as far as the savages are concerned, but medically they won't be born for another month yet."

"What do you mean?" Roche said. "Dammit, Clyde, you'll pay for this. If you'd spoken earlier—"

"I spoke soon enough," Doc Bixby said, but he retreated a little from the savagery in Roche's voice. "The cubs are embryologi-

cally immature, that's all. From the point of view of development, they're still fetuses. They seem to get born as soon as they can control their muscles, and then they crawl up into the dam's arms to be nursed the rest of the way to 'term'—like marsupials on Earth. I knew it would be that way as soon as I realized that these creatures had to have two functional pelvic girdles. If those bones are to be in balance well enough to serve as fulcrums for *two* pairs of hind limbs—and you can see that that's what the original situation was by looking at the 'horses'—then neither of them could simultaneously be flexible enough to pass a full-term cub. It was much more likely that they littered very early and maintained the whelps *outside* the womb until they reached term. They probably have many more children than they ever manage to raise; the weak ones just don't manage to make it into the nursing arms, and fall off to die. A good system for selecting out weak sisters—brutal for the spawn, but kind to the race. That's evolution for you every time."

"Very like the marsupials," Roche said in a flat, quiet voice.

"Yes, just as I said."

"What did evolution ever do for the marsupials? Opossums and kangaroos are notably inefficient animals. They've shucked

off their weak sisters that way for millions of years and still they're no better equipped to survive than they ever were! But never mind, we can't change that. What I want to know is, can we still immunize these cubs? Are they still unborn in *that* sense? In short, Clyde, now that your practical joke is over—*is there still time?* I've made promises. Can I keep them?"

"I didn't. . . . Sure you can. I took blood samples and ran antibody titers on one of the cubs when I first discovered this. They're naturally immune until they're 'born'; they're getting the appropriate beta-globulins from their mothers' milk. You can save them."

"No thanks to you," Roche said in a raw, ragged whisper.

"No," Bixby said. Abruptly, he looked quite haggard. "I suppose not. All I can say is, I would have spoken before you promised anything if it had really been too late. But there is still time."

In the tank, the warriors held out their children.

It went very well after that, all things considered. By the time we left, the plague was greatly slowed down, and Roche and the computer between them were convinced that it would

cease to be an important pandemic on Savannah not long after the *Chisholm* left. It wouldn't be exterminated, of course. Now that it had been established in so many living cells, the virus would be passed on from generation to generation, protected in its intracellular environment from any possible concentration of antibodies circulating in the extracellular fluids of the body. But by that same token, this chronic infection would keep the antibody titers high, and prevent the virus from causing any overt illness. The immunity would stick, which was what we had sought, and what we brought about.

It was over.

Except that I have come up at last with what it was that had been bothering me the whole time. And it was not just a fantasy, not just a crocheted. It was real, and came crawling into my head in all its unavoidable dread and revulsion at the moment that I opened my new orders, and found that I was again assigned to be the astrologer of the *Chisholm*.

At that instant, I remembered that the Conestoga wagon was the machine that brought tuberculosis to the Indians . . . and the orders say that we are on our way back to Savannah.

THE END



THE SPECTROSCOPE

By S. E. COTTS

THE fall breezes seem to have injected new vigor into the world of books. In addition to the volumes picked for review this month, I have some other juicy book notes.

Nonfiction—with the rapid scientific advancements of the post-World War II period, it has become increasingly difficult to distinguish fact from fiction. Hardly a week goes by without newspaper reports of advances into realms previously inhabited only by the imagination of science fiction writers and editors. Now three new fact books are available to help fans keep up with recent developments. The first is an aviation encyclopedia. It may not take the reader back to the flight of Icarus, but it covers the short space of time between the Wright Brothers and Project Mercury with up-to-date comprehensiveness. So look for *Aviation in the Modern World* by James V. Bernardo. (352 pp., E.

P. Dutton & Company, \$5.95). The other two books are excellent accounts of the latest experiments of balloonists and oceanographers respectively. The first is *Man High* by Lieut. Col. David G. Simons with Don A. Schanche. (262 pp., Doubleday & Co., \$4.50.). The other is *Frontiers of the Sea* by Robert C. Cowen. (307 pp., Doubleday & Co., \$4.95).

To lead off this month we have two novels, as far apart in scope, treatment, and aim as it is possible for books to be. The first attempts very little and succeeds quite well. The second aims very high but only gets off the ground sporadically.

THE CLIMACTICON. By Harold Livingston. 191 pp. Ballantine Books. Paper: 35¢.

If words could kill, Madison Avenue would be 'deader than a doornail' after the publication of this bombshell. But this slim vol-

ume isn't satisfied with just scalping advertising agencies. It also sets equally deadly traps for consumers, insurance companies, big business, government investigating committees, the police force, etc. etc. In fact, when Mr. Livingston is finished with his broadsides there is very little left. Everyone, but everyone in this book is a louse. Some, of course, are more obnoxious than others, but it's only a matter of degree, not of kind. This business of not being able to like any of the characters may have its drawbacks as far as great literature is concerned, but it doesn't detract from the entertainment value, if you have thick skin.

What then is the Climacticon—at once the most sought after yet damned machine ever invented? Well, it's a sort of Geiger Counter that registers female emotion instead of uranium. A man armed with one (they're as small as a camera) can tell exactly who's worth chasing after and who isn't. As you can tell, its potential is as awesome as atomic power.

Written in an appropriately slick ad agency prose, this novel will help pass a few pleasant hours. But other readers are sure to wonder, as I did, whether the author's vindictiveness might be the result of his having his Climacticon stolen, thus leaving him in the clutches of his own fallible judgment again.

VILLAGE OF STARS. By Paul Stanton. 241 pp. M. S. Mill Company-William Morrow & Company (425 Park Ave., South, N. Y., N. Y.) \$3.75.

Here is another story of the Cold War and the hair-thin line that separates it from the thermonuclear catastrophe of a Hot War. As in Hans Helmut Kirst's *The Seventh Day* (reviewed here last year and now available in an Ace Book), it is an error in human judgment which causes the crisis. But where the lapse was a believable one in Kirst's novel, set in the tinderbox of Germany, this new book by Paul Stanton poses a situation that will strain the credulity of a good many readers. It is extremely difficult to swallow that Great Britain would have set herself on the course Mr. Stanton describes without consulting either her allies or her horoscope, or that deciding to do so, she would have used an untried and not fully tested deadly weapon. However, if you can suspend your rational processes long enough to grant Stanton his point of departure, you will find that he writes with great conviction.

His knowledge of the sights and sounds of a British airbase, and what goes on inside a jet bomber is awesome. And well it should be, for he flew with the RAF and later was a pilot for the BOAC. If only he would stick to

what he knows best! But no—he tries to be poetic in his descriptions, something which is not his medium at all. Secondly, he tries to probe into the problems that beset the marriages of two of the main characters. But he never really succeeds because he doesn't adequately show the underlying causes of the problems. And at the end of the book, he hasn't made any move toward explaining how these problems will improve, though he intimates they do. Thus, he leaves the reader with the unfortunate impression that these two couples, on whom he has expended so much space, are not much more than cardboard cutouts, whose personal destinies it is not important to resolve once the physical crisis has passed.

BEYOND. *By Theodore Sturgeon. 157 pp. Avon Books. Paper: 35¢.*

Though *Beyond* may seem a strange title for a book, you'll find it a suitable one after you read this collection of six tales by Ted Sturgeon. The author takes us beyond the present ability of science to explain, but not in a physical or mechanical sense. Those whose pleasure in science fiction is derived mainly from gadgetry, whether robots or space ships, are advised to look elsewhere. Sturgeon takes us beyond what we know or can ex-

plain about mind and spirit. With his accustomed mastery, he explores character instead of chemistry.

He makes no attempt to explain these quirks and byways. Instead he uses his pen to set down the effects that the unexplainable has stamped on people of varying temperaments. Perhaps 'varying' is an understatement, for his main characters are as diverse a set of people as I have encountered in the same binding. They range from a drunken sailor to a concert violinist. There are no class distinctions in Sturgeon's strange world. Anyone can be the recipient of that something from beyond.

The first one in the collection, "Need," is a short novel, and I found it the best of the group. Its extra length allows it to be a carefully worked out story, not just a mood piece. Though his mood pieces are well done, it is a little disappointing to have such a good writer devote so much energy to them. I am sure I am not the only person who is waiting for Sturgeon to write another novel of the scope and achievement of *More Than Human*.

THE WORLDS OF CLIFFORD SIMAK. *By Clifford Simak. 378 pp. Simon and Schuster. \$3.75.*

The worlds that Clifford Simak inhabits are not violent or tem-

pestuous ones. They are gentle and compassionate, places where men can still derive pleasure from simple things. In most of his cases, the world as a whole is not aware of the events that occur. They are witnessed or experienced by few people, and those of the most unspectacular sort. For example, an alien finds himself on Earth, is recognized as a 'something different' by a farmer, and is helped on his way. Though all of the tales do not have this same plot, naturally, they all partake of this quietness. Do not be fooled by this, however, into thinking that the stories lack variety. It is the hallmark of Mr. Simak's art that within this quietness he can have a wealth of delicate shadings that give variety while retaining the universality that a story of space exploration, no matter how fine, rarely achieves. His touches of humor and sadness are in just the right quantities; nothing is done purely for effect. The result may not

have brilliance, but it certainly does have the utmost appeal.

GALAXIES LIKE GRAINS OF SAND. By Brian Aldiss. 144 pp. Signet Books. Paper: 35¢.

After the sense of personal involvement the reader gets from the Sturgeon and Simak books, the transition to Brian Aldiss' vast transient galaxies is quite a jolt. His view of the forces that swarm through time and space is cold and impersonal, as it must necessarily be to give the sense of inexorable change he envisages.

These eight stories chronicle the steps in the rise and fall of our galaxy. This is an enormous task, but he succeeds because his speculations are mature and well thought out. In fact, so strong are his convictions, that we swallow his rather unpalatable thesis as to Man's probable end with only the faintest flicker of rebellion. Such is the power of the pen!

EDITORIAL

(Continued from page 5)

"I am married to a girl from Louisiana and Texas, have two small boys, and two daughters who are both at the University as students. One of them is studying to be a doctor and I had the privilege of helping to teach her this year. The fact that she is

smarter than her old man is irrelevant."

As for the third part of that trilogy of questions—when is Dr. M. going to write some more for us?—the answer is: soon. We already have in our files a fact article and a short story.

But that is another issue—which we'll tell you about in this space when the time comes.

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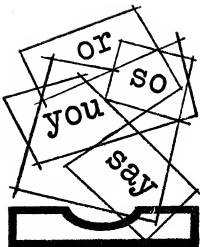
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AM-110



Dear Editor:

Bought the latest issue of *Amazing Science Fiction Stories* which is August, 1960.

The cover was one of the best I have had the privilege to see—as an almost four-year fan! I believe Leo Summers is improving. And I was somewhat astonished but very glad to see the name Emsh, and illustrating a story by one of my favorite authors, Mr. H. B. Fyfe. The rest of the illustrations were very good; and better than usual. Virgil Finlay did a marvelous job on page 52; those many stars seemed to make the picture complete. Also the one on page 57 was well-done. Please let us have a cover or so by Emsh and van Dongen.

As it is, it seems I happen to be very very fond of these manu-

scripts of one thousand words and/or under, and I believe in all truth "For Every Action," by Algis Budrys was the best short story I've read for 1960. If I were the final judge, Mr. Budrys would have, tucked under his arm/or whatever, the Hugo for the best short story of the year. I wish to congratulate this man for a story remarkably done!

Bill Wolfenbarger

● *You get action from Amazing. You ask for an Emsh cover, and here it is—right away!*

Dear Editor:

I don't have comment about your magazine, but about science fiction in general and your letter column is the only place where I can open my mouth and shout.

The other day I was talking to a friend of mine who is considered very intelligent by many people, and he asked me if I was still trying to write science fiction and I told him no, because I like to eat and sf is no road to a healthy diet. Then I added: "Unless *Twilight Zone* would have me."

He said, "But *Twilight Zone* isn't science Fiction."

I asked him what he thought science fiction was and he quite innocently replied, "Oh, space monsters and such."

Okay, so I'm sitting here with rage welling up from the pit of my stomach and lamenting the fact that people would like science fiction if they were exposed to it as such, but I'm not doing anything about it. I'm talking, but that's all sf fans ever do. So people associate science fiction with "blobs and teenage werewolves." Do we want to make people understand and like science fiction or do we want to continue sitting around and feeling sorry for ourselves? There is an old saying, "Where there's a will, there's a way," but in science fiction fandom there is no will.

Terrence Haffner
573 10th Street
Plainwell, Mich.

● *Our knowledge of fandom leads us to hearty disagreement, particularly with your last state-*

ment. It appears to us that the fans are doing plenty to spread a worthy image of science fiction to those with whom they come into contact. Their own publications, their letters published in the pro-zines, their annual regional and national conventions indicate they not only have a very strong will, but have followed through in a number of ways.

Dear Editor:

I am 15, and have been reading science fiction for as long as I can remember, which, incidentally may not be as long as most of your readers, but I'll bet I've read more sf books than most of them.

Mr. Bushby's letter in the August *Amazing* was very interesting, and his statement about younger fans prompted me to write. I read "Transient" and (although it was a bit on the weird side) enjoyed it. Please tell Mr. Bushby that he'd be surprised what the younger generation knows today.

Jimmy Douglas
Route #2
Senath, Missouri

● *Always glad to hear from the younger generation—a generation whose interest and enthusiasm sf needs.*

Dear Editor:

I have just finished reading

the August 1960 *Amazing* and I would like to say I enjoyed it very much.

However, before I discuss anything, I would like to point out an error in the June "Spectroscope." S. E. Cotts gives the address of Avon Books as being 575 Madison Ave., New York 22. It was recently changed to: Avon Book Division, The Hearst Corp., 250 West 55th Street, New York 19.

Now to the August issue. I like Bob Sheckley, so I naturally enjoyed the first installment of "Omega."

The best short stories for this issue were "The Habit" by Chandler and Neal Barrett, Jr.'s "Made In Archerius".

In the July *Amazing* you featured an article by British scientist Arthur C. Clarke who appears much too seldom in magazines. It was very interesting and I do hope you'll have more of Mr. Clarke in future issues.

I am intrigued by the ad on page 144, which tells about a change in *Amazing* with ". . a new cover design, a new series of science fact articles, greater sf stories, novellas and novels than ever before . ." and ". . . new high quality paper."

What's cooking?

David Paskow
817 W. 66th Ave.
Philadelphia 26, Pa.

● *Thanks for the correction on the whereabouts of Avon Books. There's plenty cooking including an original story by Arthur Clarke due in a few months.*

Dear Editor:

Will you stop printing letters from immature readers such as Grant Treller? At seventeen years of age, his mouth is a little bit too big to be supported by such a young and inexperienced mind. I admit that your younger readers are the most important ones, but you surely don't need one of them knocking you so hard. Just leave out letters like Master Treller's.

You should be proud of *Amazing*. It has achieved the highest standards in science fiction magazines. The August issue is a fine example of this. Serial novels seem to be the thing and you have produced some of the finest. I simply cannot wait for the finish of "Omega," by Robert Sheckley. He certainly has come a long way in a short time. Charles Cottrell's story, "Jack of No Trades," is a fine example of the excellent stories that have been appearing in *Amazing*. It seems that most of your authors have found a new mixture which adds up to great reading. I can just see Mr. Cottrell standing over a boiling cauldron mixing in some light heartedness, science fact, and high class plot. The prime

ingredient, I feel, is the humor.

I don't know which of short stories to praise the most, but I do know which one to knock. "Fee of the Frontier" was a poor story. I realize that H. B. Fyfe is an established writer and has been for some time, but even the best of us must falter at least once.

I am sure that I am not alone in saying that the best story in the issue is "Made In Archerius."

Albert Milano
199 Norwood Ave.,
Brooklyn 8, N. Y.

Dear Editor:

I have a gripe, but it is not with your magazine. It concerns the fans who are always complaining because you don't devote more space to "news of sf and fandom." If they want more news of sf and fandom why don't they join a fan club, and if they can't join, start one, or else subscribe to one of the fanzines.

There are a whole lot of people, like myself, who would drop your magazine, if you added this other feature. I must admit that your letter section is as interesting as most of the stories and that I would be very disappointed if you stopped it.

Your editorials are short and to the point which is far better than being long and leaving it up to the reader to try and figure out just what it is you are talking

about and what point you're trying to make.

Rebecca Graham
P.O. Box 231
Clifton, Ill.

● *Reader Don Legere let himself in for a small holocaust with his recent letter. The following are controversial comments on Legere and other matters:*

Dear Editor:

First of all, I think whoever it is that writes of the future issue attractions in each issue of *Amazing* stands to be corrected with what he has to say in the August issue on page 51. While Hugo Gernsback may be regarded as "Mr. Science Fiction" by some of the newer fans to the fold, his more proper title is "The Father of Science Fiction" or "the Grandfather of Science Fiction." The only person who currently holds the rank of "Mr. Science Fiction" is Forry Ackerman. I'm certain that Sam Moskowitz would be aware of this, so apparently your blurb-writer was in error.

You know, with a little proper guidance the letter column in *Amazing* may eventually turn into something of real value. Ziff-Davis is the only current sf prozine publisher that even allows a lettercolumn in its magazines, so with no competition it won't be too difficult.

One requisite that a lettercol-

umn must have, however, is controversy, and judging from the range of the letters in the current issue there's no lack of that. Probably the one that is designed to provoke the most comment is Don Legere's, where he blatantly dismisses the interests and likes of fandom with little more than a wave of his hand.

Mr. Legere displays a remarkable amount of misinformation and makes it seem probable that he's never seen a fanzine before, if he truly believes fanzine reviews would be simply "reviews of a million and one stories." On the contrary, most fanzines tend to shy away from fiction in their pages, operating under the assumption that if it's good enough fiction it belongs in the prozines and if it isn't good, then it doesn't deserve to be published. As the title implies, fanzines are mainly interested in *fan* doings, and less in publishing amateur science fiction stories.

Then there is the matter of letters. Now certainly the majority of a fiction magazine should not be devoted to letters, but I defy him to name one magazine that *did* devote more than half of its contents to printing only letters from its readers.

I'm heartened to see that other intelligent persons have risen to the defense of Ward Moore's excellent "Transient." The first good example of quality writing

in a decade, like the Moore story, comes along and all those who have grown accustomed to the thud-and-blunder space operas condemn it because it requires a bit of thinking to read. By all means get more stories of this calibre any way you can.

Why does Grant Treller say that a pulp "always will be a prime example of how lousy a science fiction magazine can be"? I've never read a more unfair or ridiculous statement than this. What's the matter Grant, didn't you ever see *Astounding* when it was a pulp, or *Startling*, or *Famous Fantastic Mysteries*, or *Fantastic Novel*, or *Planet*, or *Weird*, or *Unknown*, or . . . but then I could amass quite a list, couldn't I? And don't forget, *Amazing* and *Fantastic* started as pulps too. I hold a hallowed spot in my collection for choice items like the huge 278 and 320 single copies of *Amazing*, the Quarterlies that rivaled the size of the telephone books, the novels crammed into each issue, along with the story and the fillers. Come, come, saying that a pulp magazine is bad simply because it is pulp is extremely poor judgement and of little sense.

Mike Deckinger
Millburn, N. J.

Dear Editor:

To Don Legere: I read sf mags

for the sf stories. I also drive a car to get from place to place. Is that any reason for me not to want an attractive car, not to know how a car works, and not to want to talk about and hear about my car? A lot of people like the features and if Don doesn't he can skip them and go talk about his car.

Apparently "Transient" is still a topic of conversation (and will be for years to come) so I will repeat that I think it is a work of art. When does it come out in hard covers? I sure hope a publisher has the intelligence to print it.

Frederick Norwood
111 Upperline
Franklin, La.

Dear Editor:

I have just finished reading the August issue of *Amazing*. I would like to rush in some hoo-rays for Robert Sheckley in "Omega." You know, like how do you describe it in coolish words? I'd say it is the most, man. Stupendous. Way out. Or as some squares say, it is like an excellent example of real sf writing.

I have been a viewer of *Amazing* for a long time, and it is like the best sf mag on the market. You know, strictly top-grade jazz. Anyway, it was part one of

"Omega" that spurred me into (as David Bunch would say), "getting regular" by like subscribing. You can count me in as a lifetime reader of your output until (as that cat Asimov might say) infinity. I like strongly think anyone who continuously slanders *Amazing* in the "Or So You Say" bit is you know, like a first class square.

And the rest of the mag was . . . well, supremesville! Just one minor complaint; how about just a little better you know, pencil scratches like inside the covers. And a small bit to Don Legere . . . come on, man! Get out of that ughsville rut! You know, like David Bunch's "tin man" stories (as you squarely put it) are not ugh! They're in orbit!

I only hope in the coming infinities I will be a subscriber to your magazine and it will continue putting out the cool jazz just like ever.

One more lip: your formats . . . you know, covers to you, are on the improve. Good scratchings on the August cover by that cat Leo. Goes in like good with the "Omega" bit.

Drew D. Jordan, Jr.
54 S. 8th East
Salt Lake City, Utah

● *Do you have a beard?*



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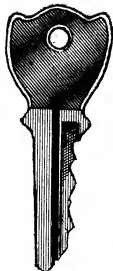
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